DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
2 NAVY ANNEX
WASHINGTON, DC 20380-1775

NAVMC DIR 3500.99
C 4610
28 Apr 06

NAVMC DIRECTIVE 3500.99

From: Commandant of the Marine Corps
To: Distribution List

Subj: AV-8B TRAINING AND READINESS (T&R) MANUAL

Ref: (a) NAVMC DIR 3500.14

Encl: (1) AV-8B Training and Readiness Manual

1. PURPOSE. To revise training standards and regulations regarding the training of AV-8B aircrew per the reference.

2. INFORMATION

a. The purpose of this revision is to align AV-8B training standards with Aviation T&R Program Manual regulations per the reference, and to fine-tune core model table construction with Deputy Commandant Aviation's vision to report training level readiness via the T&R core model.

b. Recommended changes to this directive are invited, and will be submitted via the syllabus sponsor and the appropriate chain of command to the Commanding General, Training and Education Command, Aviation Training Branch via e-mail (refer to http://www.tecom.usmc.mil/atb/contacts_.htm) or the Defense Message System using the following plain language address: CG TECOM QUANTICO VA ATB.

3. SCOPE. AV-8B squadrons will train to the standards and programs of instruction contained in this directive.

4. COMMAND. This directive is applicable to the Marine Corps Total Force.

5. CERTIFICATION. This directive is reviewed and approved this date.

K. J. STALDER
By direction

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AV-8B TRAINING AND READINESS MANUAL

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FIGURE

100. MARINE ATTACK SQUADRON (AV-8B) UNIT CORE COMPETENCY

1. Background. Marine Aviation plays a crucial role in the MAGTF's ability to conduct Maneuver Warfare. The ultimate goal of Marine Aviation is to attain the highest possible combat readiness to support Expeditionary Maneuver Warfare while at the same time preserving and conserving our Marines and equipment. Embedded within our combat readiness is the ability to rapidly, effectively, and efficiently deploy on short notice and the ability to quickly and effectively plan for crises and/or contingency operations thereby ensuring Marine Aviation remains ready for combat when and where the need arises. The AV-8B T&R Manual represents the collaborative effort of AV-8B Subject Matter Experts who designed training standards to maximize the full combat capabilities of the AV-8B and its crew. These standards, intrinsic in the core competency section, describe and define unit capabilities and requirements necessary to maintain like-squadron proficiency in core skills and combat leadership. Training events are based on specific requirements and performance standards to ensure pilots maintain a common base of training and depth of combat capabilities. Together, the T&R comprises a building block approach to ensure that trained aircrews remain ready, relevant, and fully capable of supporting the MAGTF commander.

2. VMA Mission. Support the MAGTF Commander by destroying surface targets and escorting friendly aircraft, day or night under all weather conditions during expeditionary, joint or combined operations.

3. Mission Essential Task List (METL)

a. (UJTL TA 1.1.4) Conduct Sea and Air Deployment Operations
- Maintain capability to deploy and operate from naval shipping, advanced bases, and expeditionary airfields.
- Maintain the capability to conduct extended range operations employing aerial refueling.
- Perform organizational maintenance on assigned aircraft.

b. (UJTL TA 3.2.1) Conduct Fire Support
- Conduct Offensive Anti-Air Warfare.
- Conduct Offensive Air Support.

c. (UJTL TA 3.2.2) Conduct Close Air Support
- Conduct escort of friendly ground forces.
- Conduct Assault Support Escort.

d. (UJTL TA 3.2.3) Conduct Interdiction Operations
- Conduct Armed Reconnaissance.
- Conduct Strike Coordination and Reconnaissance (SCAR).

e. (UJTL TA 3.2.4) Conduct Joint Suppression of Enemy Air Defenses

f. (UJTL TA 3.2.8) Conduct Air-to-Air Operations
- Conduct Anti-Air Warfare.
- Conduct self escort and escort of friendly aircraft and ground forces.

g. (UJTL TA 3.3) Coordinate Battlespace Maneuver and Integrate with Firepower
- Conduct combined arms coordination and control operations.
- Conduct Tactical Recovery of Aircraft and Personnel (TRAP) operations.

4. Table of Organization. Refer to Table of Organization 8860 managed by Total Force Structure, MCCDC, for current authorized organizational structure and personnel strength for AV-8B units. As of this publication date, AV-8B units are authorized:

Squadron
14 aircraft
24 Pilots

Detachment
6 aircraft
9 pilots

5. Core Capability. A core capable AV-8B unit is able to sustain the number of sorties listed below on a daily basis during contingency/combat operations. The sortie rates are based on 1.2 hour average sortie duration and assumes > 70 percent FMC aircraft and > 90 percent T/O pilots on hand. If unit FMC aircraft < 70 percent or T/O pilots < 90 percent, core capability will be degraded by a like percentage. A core capable unit is able to accomplish all tasks designated in the unit METL from a main base, expeditionary base, or amphibious platform.

a. Core Capable Squadron. A core capable VMA squadron is able to sustain 24 sorties.

b. Core Capable Squadron (-). A core capable squadron (-) is able to sustain 14 sorties.

c. Core Capable Detachment. A core capable detachment is able to sustain 10 sorties.

6. METL/Core Skills. AV-8B core skills directly support the METL as follows:

	FAM	AAR	LAT	AS	NS	AA	CAS	AR	SCAR	AAW	AI
a. Conduct Sea and Air Deployment Ops	X	X			X						
b. Conduct Fire Support	X		X	X	X		X	X	X		X
c. Conduct Close Air Support	X		X	X	X		X				
d. Conduct Interdiction Operations	X		X	X	X	X		X	X		X
e. Conduct Joint Suppression of Enemy Air Defenses	X		X	X	X			X	X		X
f. Conduct Air to Air Operations	X				X	X				X	
g. Coordinate Battlespace Maneuver and Integrate with Firepower	X		X	X	X		X				

	FCLP*	FCLP (N)*	CQ*	CQ (N)*
a. Conduct Sea and Air Deployment Ops	X	X	X	X
b. Conduct Fire Support				
c. Conduct Close Air Support				
d. Conduct Interdiction Operations				
e. Conduct Joint Suppression of Enemy Air Defenses				
f. Conduct Air to Air Operations				
g. Coordinate Battlespace Maneuver and Integrate with Firepower				
*Core or Core Plus Skill				

	FBO**	LAT**	ASE**	GCE**	OAS**	NTISR**	LFE**	FAC (A)**	ESC**
a. Conduct Sea and Air Deployment Ops	X								
b. Conduct Fire Support		X	X	X	X	X	X		
c. Conduct Close Air Support		X	X	X	X		X		
d. Conduct Interdiction Operations		X	X	X	X		X		
e. Conduct Joint Suppression of Enemy Air Defenses		X	X		X		X		
f. Conduct Air to Air Operations			X	X	X		X		
g. Coordinate Battlespace Maneuver and Integrate with Firepower								X	X
**Core Plus Skill									

7. AV-8B Core Model Minimum Requirements (CMMR). CMMR is measured in terms of the minimum numbers of core skill proficient crews and minimum numbers of combat leaders per paragraphs a and b below:

a. Minimum Unit CSP Requirements. As a minimum, in order to be considered core competent, a unit must possess the following numbers of pilots who are proficient in each core skill (unit CSP).

*NOTE

For a detachment, FCLP, FCLP(N), CQ, and CQ(N) are core skills. For the squadron and squadron (-) FCLP, FCLP(N), CQ, and CQ(N) are core plus skills. Proficiency in core plus skills is not required to obtain unit CSP.

**NOTE

FBO, 400-level LAT, ASE, GCE, OAS, NTISR, LFE, FAC(A), and ESC are core plus skills. Proficiency in core plus skills is not required to obtain unit CSP.

Training to core plus skills is at the discretion of the commanding officer. Core plus skill training may support unique training opportunities or contingency operations.

	AV-8B Unit CSP Requirements		
CORE/CORE PLUS SKILL	SQDN Pilots	SQDN(-) Pilots	DETACHMENT Pilots
FAM	16	10	7
AAR	16	10	7
LAT	15	12	7
AS	15	12	7
NS	15	12	7
AA	10	6	7
CAS	15	12	7
AR	15	12	7
SCAR	15	12	7
AAW	10	6	7
AI	14	10	7
FCLP	NA	NA	7
FCLP(N)	NA	NA	5
CQ	NA	NA	7
CQ(N)	NA	NA	5
*FCLP	16	10	NA
*FCLP(N)	8	5	NA
*CQ	16	10	NA
*CQ(N)	8	5	NA
**FBO	16	10	7
**LAT	4	2	2
**ASE	14	10	7
**GCE	14	10	7
**OAS	4	2	2
**NTISR	14	10	7
**LFE	14	10	7
**FAC(A)	4	2	2
**ESC	11	6	5

A standard AV-8B crew consists of 1 pilot. In order to be considered proficient in a core skill (individual CSP), a pilot must attain and maintain proficiency in core skill events, as delineated in paragraphs (1) and (2) below.

(1) Events Required to Attain Individual CSP. To initially attain CSP in a core skill, a pilot must simultaneously have a proficient status in all of the Core (200-300) T&R events listed in the table below for that core skill:

Individual CSP Attain Table								
Pilot	FAM	AAR	LAT	AS	NS	AA	CAS	AR
T&R event requirements to attain CSP	S200 S201R 202R	210R 211R	S220 S221R 222 223	S230R S231 S232R S233R S234 235R 236 237 238R 239 240 241 242 243R 244R	S250 S251R 252R 253 254 255R	S260R 261 262 263 264R S265 S266 S267 S268 S269 S270 271R 272 273 274R	S300R S301 S302 303R 304 305R 306R 307	S310 311 312R 313R
R = Refresher POI event S = Event conducted in simulator								

Individual CSP Attain Table							
Pilot	SCAR	AAW	AI	FCLP (D)	FCLP (N)	CQ (D)	CQ (N)
T&R event requirements to attain CSP	320 321R	S330R S331 332R	S350 351R 352 353R	S400R 401R	S402R 403R S404R 405R	S410R 411R	S412R 413R S414R 415R
R = Refresher POI event S = Event conducted in simulator							

(2) Events Required to Maintain Individual CSP. To maintain CSP in a core skill, a pilot must maintain proficiency in all of the Core (200-300) T&R events listed in the table below for that core skill.

Individual CSP Maintain Table								
Pilot	FAM	AAR	LAT	AS	NS	AA	CAS	AR
T&R event requirements to maintain CSP	S201R 202R	211R	S221R	235R 238R 243R 244R	252R	264R 271R 274R	303R 305R 306R	313R
R = Refresher POI event S = Event conducted in simulator								

Individual CSP Maintain Table							
Pilot	SCAR	AAW	AI	FCLP (D)	FCLP (N)	CQ (D)	CQ (N)
T&R event requirements to maintain CSP	321R	332R	353R	401R	405R	411R	415R
R = Refresher POI event S = Event conducted in simulator							

(3) Events Required to Attain Individual Proficiency in Core Plus Skills. Proficiency in Core Plus Skills is not required to obtain unit CSP. Training to Core Plus Skills is at the discretion of the unit commanding officer. To initially attain proficiency in a Core Plus Skill, a pilot must simultaneously have a 'proficient' status in all of the T&R events listed in the table below for that Core Plus Skill:

Individual Core Plus Skills Attain Table						
Pilot	FCLP (D)	FCLP (N)	CQ (D)	CQ (N)	FBO	LAT
T&R event requirements to attain Core Plus Skill proficiency	S400R 401R	S402R 403R S404R 405R	S410R 411R	S412R 413R S414R 415R	S420R 421R S422R 423R	430 431R S432 S433R 434 435R 436 437R
R = Refresher POI event S = Event conducted in simulator						

Individual Core Plus Skills Attain Table							
Pilot	ASE	GCE	OAS	NTISR	LFE	FAC(A)	FAC(A) ESCORT
T&R event requirements to attain Core Plus Skill proficiency	440R	441R	450R 451R	460R	470 471R	S480 S481 482 483R 484 485 486 487R 488R 489R 490R 491 492 493 494	495R
R = Refresher POI event S = Event conducted in simulator							

(4) Events Required to Maintain Individual Proficiency in Core Plus Skills. To maintain proficiency in a core plus skill, a pilot must maintain proficiency in all of the T&R events listed in the table below for that core plus skill.

Individual Core Plus Skills Maintain Table						
Pilot	FCLP (D)	FCLP (N)	CQ (D)	CQ (N)	FBO	LAT
T&R event requirements to maintain Core Plus Skill proficiency	401R	405R	411R	415R	423R	435R 437R
R = Refresher POI event S = Event conducted in simulator						

Individual Core Plus Skills Maintain Table							
Pilot	ASE	GCE	OAS	NTISR	LFE	FAC(A)	FAC(A) ESCORT
T&R event requirements to maintain Core Plus Skill proficiency	440R	441R	450R 451R	460R	471R	483R 487R 488R 489R 490R	495R
R = Refresher POI event S = Event conducted in simulator							

b. Minimum Combat Leader Requirements. At a minimum, in order to be considered Core Competent, a squadron must possess the following numbers of pilots with listed flight leadership designations.

DESIGNATION	SQDN	SQDN(-)	DETACHMENT	Remarks
SECTION LEAD	11	6	5	INCLUDES DIVISION LEAD
DIVISION LEAD	6	3	3	INCLUDES MISSION CMDR
MISSION CMDR	3	2	1	INCLUDES WTI

8. Qualifications And Designations Tables. The tables below delineate T&R events required to be completed to attain initial qualifications, re-qualifications, and designations. All stage lectures, briefs, squadron training and prerequisites shall be complete prior to completing final events. Qualification and designation letters signed by the commanding officer shall be placed in the NATOPS and APR jackets. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R coded syllabus events associated with that qualification.

Qualification (TRACKING CODE)	**Initial Event Qualification Requirements**
NATOPS (600)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.
INST (601)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.
AAR (610)	210, 211, and IAW Air Refueling NATOPS
LAT QUAL (611)	S220, S221R, 222, 223
NSQ HI (612)	S250, S251, 252, 253, 254, 255
ACM QUAL (613)	S260, 261, 262, 263, 264, S265, S266, S267, S268, S269, S270, 271, 272, 273, 274
CQ(D)QUAL (614)	S410, 411
CQ(N)QUAL (615)	S412, 413, S414, 415
NSQ Low (616)	S432, S433, 434, 435, 436, 437
FAC(A) QUAL (617)	S480, S481, 482, 483, 484, 485, 486, 487, 488, 489, 490
AIRSHOW DEMO (618)	Syllabus IAW MAG SOP

Designation (TRACKING CODE)	**Designation Requirements**
SECTION LEAD (603)	S620, S621, 622, 623, 624, 625, 626
DIVISION LEAD (604)	630, 631, 632, 633
MISSION CMDR (605)	636, 637
PMCF (641)	S640, 641 and IAW OPNAVINST 4790 and an annual designation letter signed by the commanding officer.
WTO (505)	IAW the MAWTS-1 Course Catalog.
LATI (513)	
NSI (523)	
NS LATI (526)	
ACTI (533)	
FAC(A)I (543)	

9. Instructor Requirements. A unit should possess the following numbers of pilots with the listed instructor designations IAW MCO 3500.12C (WTTP). Note: Squadron CO/XO instructor designations shall not count toward the following numbers:

INSTRUCTOR DESIGNATION	SQDN	SQDN(-)	DETACHMENT	REMARKS
LSO	5	2	3	INCLUDES T,A&B LSO
LSS	2	1	1	MAIN BASE
WTO	3	2	1	INCLUDES WTI
LATI	3	2	1	INCLUDES WTI
NSI	3	2	1	INCLUDES WTI
NS LATI	2	1	1	INCLUDES WTI
ACTI	2	1	1	INCLUDES WTI
FAC(A)I	1	1	0	FAC(A)I
WTI	1	1	0	FILLING A PTO BILLET

10. Training Progression Model. Per Chapter 2 of the T&R Program Manual, the AV-8B Pilot Training Progression Model is depicted as follows:

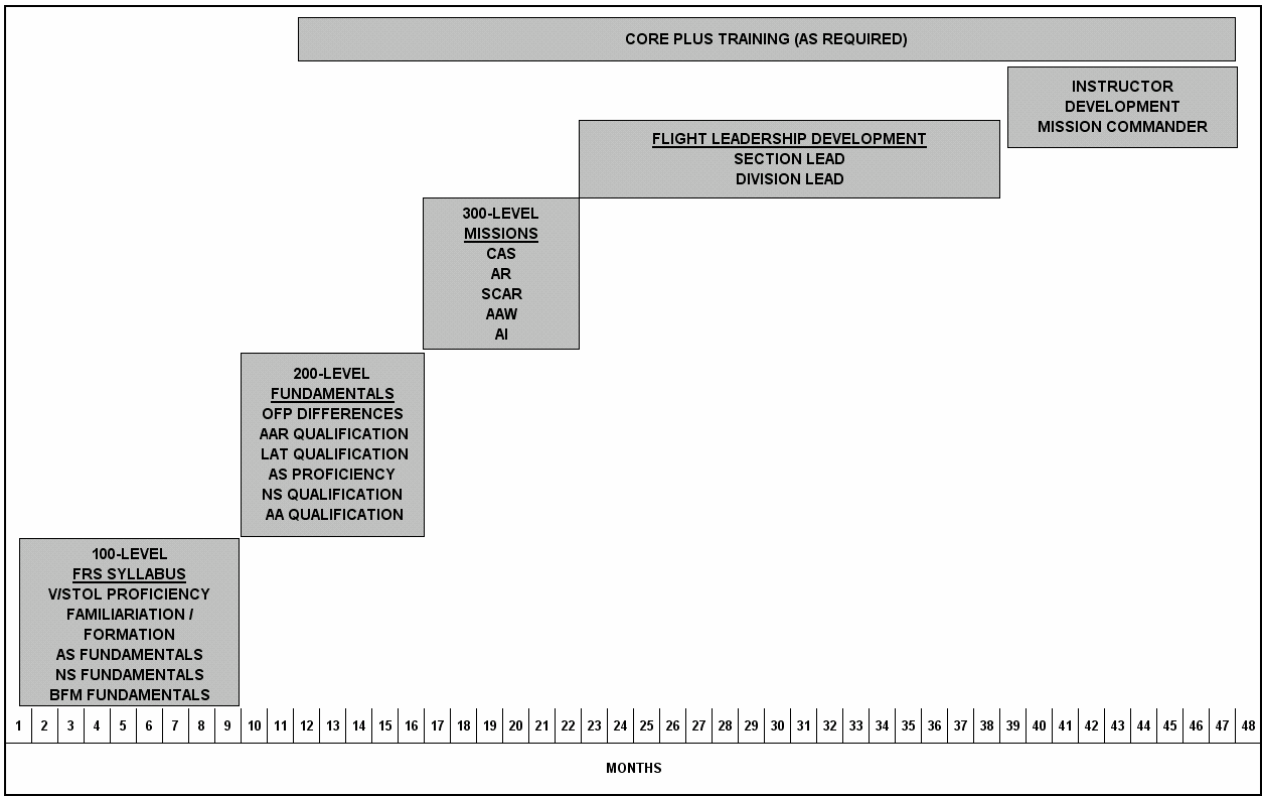

Figure 1.--AV-8B Pilot Training Progression Model.

101. PROGRAMS OF INSTRUCTION (POI) FOR BASIC, CONVERSION, AND TRANSITION PILOT. Note that Conversion and Transition pilots fly the entire Basic POI.

WEEKS	COURSE/PHASE	ACTIVITY
1-4	Transit and Pre-load	Training Squadron
5-40	Core Skill Introduction Training	Training Squadron
41-80	Core Skill Basic Training	Tactical Squadron
81-112	Core Skill Advanced Training	Tactical Squadron
113-160	Core Plus Training	Tactical Squadron

102. POI FOR REFRESHER PILOT

WEEKS	COURSE/PHASE	ACTIVITY
1-8	Core Skill Introduction Training	Training Squadron
9-23	Core Skill Basic Training	Tactical Squadron
24-34	Core Skill Advanced Training	Tactical Squadron
35-52	Core Plus Training	Tactical Squadron

103. POI FOR MODIFIED REFRESHER PILOT

WEEKS	COURSE/PHASE	ACTIVITY
1-3	Core Skill Introduction Training	Training Squadron
*	Core Skill Basic Training	Tactical Squadron
*	Core Skill Advanced Training	Tactical Squadron
*	Core Plus Training	Tactical Squadron

* = Modified Refresher stages are based upon the full Refresher syllabus modified at the discretion of the squadron commanding officer.

104. POI FOR FRS INSTRUCTOR PILOT

WEEKS	COURSE/PHASE	ACTIVITY
1-5	T/AV-8B Instructor Pilot (IP)	Training Squadron

105. SQUADRON LEVEL TRAINING. Ground training requirements are listed separately for each phase of flight training. Training may be completed earlier in stage but should be completed by the appropriate sortie(s).

130. EVENT PERFORMANCE REQUIREMENTS

1. General

a. The MAWTS-1 Academic Support details all Ground, Academic, Simulator, and Flight requirements for each stage of the T+R. This matrix will be put in the APR of all pilots to thoroughly track training progression. As each training event is completed, the PTO will input the date of completion.

b. All events, to include simulators, shall begin with a comprehensive brief emphasizing: administrative procedures, CRM, tactical procedures, and mission performance standards. All events shall terminate with a comprehensive debrief emphasizing pilot performance utilizing all evaluation techniques available (e.g., TACTS, tapes, participating aircrews, and AIC personnel).

c. An ATF is required for any initial event completed by a Basic, Transition, Conversion of Refresher pilot, or as recommended by the squadron

Standardization Board. Standardized ATFs can be obtained by the T&R sponsor, MAWTS-1.

d. The T&R manual is the Marine Corps pilot training document. It details the training requirements and standards for Marine pilots. When operational commanders assign AV-8B squadrons to prolonged commitments where specific T&R training is not available (e.g., MEU deployments), it is expected that degradation in some mission areas will occur. Commanding officers are authorized and encouraged to employ the AV-8B in specific missions relating to their current situation and avoid those mission areas not relevant to their situation. It is not intended for squadrons to train to specific mission areas and avoid mission areas that the AV-8B is very capable of conducting, but are difficult to coordinate. This type of mission specific training is granted only to squadron commanding officers deployed in austere conditions that prevent them from executing the T&R manual.

2. T&R Phases

a. The 200-level phase is considered to be ‘skill’ level training. Completion of the 200-level phase shall provide the AV-8B pilot with the skills required to execute AV-8B missions that directly support the unit METL.

b. The 300-level phase is considered to be ‘mission’ level training. Completion of the 300-level phase ensures the AV-8B pilot is trained to execute missions that support the unit METL.

c. The 200 and 300-level phases are considered core skills.

d. The 400-level phase is considered “Core Plus” training. This phase contains AV-8 training standards applicable to large scale integrated missions, unique mission areas, or mission areas having a low probability of execution. This phase also trains pilots to be capable of leading/directing flights of numerous aircraft in a complex wartime scenario. Although core plus training events may provide valuable training opportunities, they are not measured as part of the unit reporting.

e. The 500-level phase contains instructor workup and certification syllabus events.

f. The 600-level phase contains requirements, qualifications and designations syllabus events.

3. T&R Codes

a. In order to log a T&R code, pilots must complete all event requirements satisfactorily achieving Mission Performance Standards. Logging multiple training codes on a single sortie shall be avoided except for the following mission areas: CAS, AR, SCAR, AI. Here, pilots shall log the mission code, applicable tactic utilized (AS codes) and code for ordnance employed. When scheduling sorties, training officers are allowed to schedule additional training codes based on anticipated ordnance delivery profiles if the Performance Standards are met for the ordnance delivered. For example, a pilot is scheduled for CAS-305 with 2 GBU-12s and a TPOD. A pilot may log AS-241, AS-243, TRK-651, and TRK-664. Even though all requirements for sortie completion may not be met for those 2 codes, the pilot may log the additional codes, as long as the Performance Standards are met (i.e. valid delivery, within required CEP, etc).

b. Additionally, it is appropriate to log 3 separate training codes if, during the conduct of a sortie, the flight completes all of the specific event requirements for a syllabus event, conducts air-to-air refueling and completes all AAR requirements, then completes a third syllabus event prior to landing. If multiple syllabus events are to be accomplished during a single flight evolution, appropriate planning, briefing, and debriefing time must be allotted to ensure that requisite training objectives can be met.

c. In the event that ordnance or dissimilar adversary requirements are not available, or the available training range does not fully support the syllabus event, the following 600-Level tracking codes shall be logged in addition to the syllabus event code:

(1) TRK-668: Required range requirement unavailable.

(2) TRK-669: Ordnance requirement unavailable.

(3) TRK-670: Syllabus support unavailable.

4. Number of aircraft required. Some of the syllabus events in the T&R have 1+ or 2+ aircraft required. 1+ aircraft required implies that the flight may be flown as a single ship or greater. 2+ aircraft required implies that the flight may be flown as a section or greater.

5. Sortie Requirements. Sortie requirements state the minimum number of passes, engagements, or maneuvers required for completion. Sorties that do not complete all stated requirements in 1 sortie, may complete the requirements of an event in multiple sorties as long as the completion sorties are flown in succession and within normal currency windows defined the T&R. If a pilot’s currency expires or the event requirements cannot be completed on the next scheduled sortie, then the event shall be re-flown in its entirety.

6. Performance Standards. Performance standards are listed for each T&R event description. These are training standards for individual pilot performance and should be utilized as a guideline to determine the satisfactory completion of each event. If the pilot did not satisfactorily attain the performance standards, the training code shall not be logged as a completed flight. Instead, the applicable incomplete tracking code (TRK 671 through TRK 692) shall be logged.

a. All simulators and flight events shall be planned, briefed, executed and debriefed IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, OPNAVINST 3710, doctrinal publications, the AV-8B TACSOP, and applicable SOPs.

b. An Aircrew Training Form (ATF) shall be completed for all basic or refresher syllabus; flight leadership work-up events; and instructor work-up events.

c. All pilots shall have a APR. The squadron PTO shall ensure each ATF is entered in section 3 of the APR.

d. Performance Standards are listed for each simulator and flight event. If the Performance Standards are achieved, then the applicable T+R code can be logged.

7. Ordnance. In the Core Skill Introduction phase, specific ordnance requirements are delineated for each event. In the Core Skill Basic through Core Plus Phase, this is done for simulator events and in those cases where a

particular sortie's objectives could not be met without a specific ordnance load. In the remaining cases, individual events in this Manual specify ordnance requirements by general category of ordnance to be employed:

a. Gun.

b. Free fall.

c. Illumination.

d. Rockets.

e. Precision Guided Munitions (PGM).

f. Expendables.

g. Air Intercept Missiles (AIM).

This approach is designed to give commanders maximum flexibility when attempting to balance training effectiveness with logistical and operational constraints (i.e., NCEA, component availability, range restrictions, weather, etc.). With the category of ordnance, there exists wide latitude with regard to the use of: simulation modes, captive carry, practice, inert and heavy explosive ordnance. Paragraph 160 contains further information on the number and types of ordnance required to ensure adequate total training exposure for each pilot and squadron.

For Initial and Refresher POI, the ordnance loadout specified in the sortie description is required to complete the event. When the loadout specified is generic (i.e. free fall munitions), any NATIP authorized loadout is acceptable.

8. Range Requirements

a. Each sortie description lists a series of range capabilities required to complete the sortie and accurately assess mission performance standards.

b. Paragraph 170 details each range capability and abbreviation.

9. Aviation Training Rules of Conduct. Pilots shall adhere to Aviation Training Rules of Conduct for Low Altitude, Night Systems (NS), Air Combat Maneuvering (ACM), and Forward Air Control (Airborne) training operations in accordance with NAVMC 3500.14 (Aviation Training and Readiness Program Manual). Pilots conducting NS LAT training (other than NSQ Low training under the supervision of an NSLATI) shall be NS Low qualified.

131. CORE SKILL INTRODUCTION PHASE

1. Core Skill Introduction Training

a. Purpose. Transition pilots to the AV-8B Harrier II+. Introduce all procedures, skills, and weapons requisite for AV-8B NATOPS qualification.

b. General

(1) Satisfactory performance metrics for Core Skill Introduction syllabus events are determined and maintained by VMAT-203. These performance standards are based on applicable publications (e.g. AV-8B NATOPS Manual, OPNAVINST 3710, etc.), but are tailored to fit adequate pilot performance that is commensurate with an acceptable level of progression. Additional

performance standards are specified, when applicable, for each stage of training.

(2) Passing grade on written examinations is 80%.

(3) All training shall be conducted IAW applicable portions of OPNAVINST 3710 and NAVMC DIR 3500.14, Aviation Training and Readiness Program Manual

2. Familiarization (FAM)

a. Purpose. Introduce systems management, normal and emergency procedures.

b. General

(1) An early stage FAM instructor is required for events up to, and including, FAM-019.

(2) A late stage FAM instructor is required for events after FAM-019.

(3) A FRS Landing Site Instructor (LSI) shall supervise all solos.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATOPS Manual (A1-AV8BB-NFM-000)

1. Chapter 1, Aircraft and Engine

2. Chapter 2, Systems

3. Chapter 4, Operating Limitations

4. Chapter 7, Shore-Based Procedures

5. Chapter 11, Flight Characteristics

6. Chapter 12, General Emergencies

7. Chapter 13, Ground Emergencies

8. Chapter 14, Takeoff Emergencies

9. Chapter 15, In-Flight Emergencies

10. Chapter 16, Landing Emergencies

11. Chapter 17, Emergency Egress

12. Chapter 18, Immediate Action Items

13. Chapter 20, Instrument Procedures

14. Chapter 22, Communications

15. Chapter 23, Navigation

16. Chapter 24, Identification

17. Chapter 25, Data Storage Set

18. Chapter 26, V/STOL-REST Displays

19. Chapter 27, Digital Video Mapping Set

20. Chapter 28, Video Recording System

21. Chapter 29, Forward Looking Infrared Navigation System

(b) Air NTTP 3-22.1-AV8B

1. Section 3.1 AV-8B TACSOP

2. Section 3.2 Ground Operations

3. Section 3.3 Flight Operations

4. Section 3.8 Communications

5. Section 3.12 Debriefing

(c) AV-8B TACSOP. General Standards.

(d) V/STOL Pilot's Book of Corporate Knowledge

(e) MPCD Workbook

(f) Aircraft Configuration Guide

(2) Lectures

(a) Familiarization Stage Brief

(b) Instrument Ground School

(c) Receive the following AV-8B Courseware lectures:

1. AV-8B Engine

2. Electrical and Lighting Systems

3. Fuel System

4. Hydraulic Power and Landing Systems

5. Flight Control Systems

6. Environmental Control Systems

7. Standby Flight Instruments

8. Mission Computer

9. OSCAR Mission Systems Computer (MSC)

10. Up Front Control Set

11. Communication / Identifications Equipment

12. Heads Up Display

13. INS Theory

14. GPS Theory

15. Navigation Systems, Part 1

16. Navigation Systems, Part 2

17. Navigation Systems, Part 3

18. Navigation Systems, Part 4

19. Emergency Equipment

20. Ejection Seat

21. Survival Equipment

22. Operating Limits

23. Video Recording System

24. Introduction to the RADAR

25. Aerodynamics

26. AV-8B / TAV-8B Differences

27. OSCAR Changes to the TAV-8B

28. AV-8B Engine Handling and Performance

29. AV-8B Preflight

30. Normal Procedures, Part 1

31. Normal Procedures, Part 2

32. Normal Procedures, Part 3

33. Normal Procedures, Part 4

34. Normal Procedures, Part 5

35. Normal Procedures, Part 6

36. Normal Procedures, Part 7

37. Ground Emergencies

38. Takeoff Emergencies

39. In Flight Emergencies, Part 1

40. In Flight Emergencies, Part 2

41. Landing Emergencies

42. Briefing/Debriefing

43. Instrument Procedures

44. Aircraft Service and Handling

45. AV-8B Flight Preparation

(3) Chalk Talks/Practical Application

(a) Engine and Fuel Systems Trainer

(b) Airframe Systems Trainer

(c) Seat Brief, Survival Equipment, Parachute Hang

(d) JMPS: Introduction to Joint Mission Planning System

(e) JMPS: Introduction to the AV-8B Unique Planning Component

(f) JMPS: Basic Mission Planning

(4) Exams

(a) Engine quiz

(b) Electrical, Fuel, and Hydraulic Systems quiz

(c) Flight Controls, Environmental Systems, and Standby Flight Instruments quiz

(d) Aerodynamics quiz

(e) FAM Ground School exam

d. Flight and Simulator Event Training. (29 Events, 48 Hours).

SFAM-001 2.0 RNWST S

Goal. Introduce the AV-8B cockpit and after entering cockpit, pre-start, starting engine, and before taxi checks. Introduce MPCD emphasizing DVMS modes, UFC and ODU, communication systems, and HUD emphasizing V/STOL and navigation master modes symbology.

Requirement. Perform a cockpit orientation, DSU and VRS installation, after entering cockpit, pre-start, and starting engine checks. Perform INS ground alignment, RADAR power up, before taxiing and after landing checks. Conduct postflight aircraft data retrieval and DSU removal procedures.

Performance Standard
PUI shall be familiar with all aircraft system functionality and checklist procedures.

Prerequisite. Complete FAM stage Ground/Academic training.

SFAM-002 2.0 RNWST S

Goal. Introduce takeoff, in-flight, and landing checks and maneuvers. Practice normal cockpit check procedures.

Requirement. Perform blindfold cockpit check, data transfer, engine data entry, ANTISKID, brake, NWS, and pre-positioning checks. Perform takeoff checklist, 1 finger, 2/5 finger checks, CTO, and after takeoff checks. Perform climb technique, handling drills, and approach to stall (clean, dirty), VFR straight-in, landing checklist, 2 STOL flap FNSL, PNB, VRST STO display, STOL flap STO, and 2 auto flap VNSL.

Performance Standard
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-001.

SFAM-003 2.0 RNWST S

Goal. Introduce takeoff/in-flight/landing checks and maneuvers, PAR, and emergency procedures. Practice normal cockpit check procedures.

Requirement. Perform CWAIVER checks, PAR, waveoff, 2 STOL flap VNSL, 2 roll-and-go landings, VRST VL display, 2 and press-ups. Perform emergency procedures: emergency shutdown, abnormal start, and engine fire (fire warning light). Review CTO, STOL flap STO, 2 STOL flap FNSL, and 2 auto flap VNSL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-002.

SFAM-004 2.0 RNWST/WST S

Goal. Introduce takeoff/in-flight/landing checks and maneuvers, emergency procedures, and TACAN approach.

Requirement. Perform TACAN approach, 3 CL to full stop, 2 CL to touch-and-go landing, 1 CL to roll-and-go landing. Perform emergency procedures: ground fire, loss of engine control, and oil system failure (oil caution light). Review STOL flap STO, 2 auto flap VNSL and 2 press-ups.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-003.

SFAM-005 2.0 RNWST/WST S

Goal. Introduce takeoff/in-flight/landing checks, maneuvers, and emergency procedures.

Requirement. Perform VFR overhead, 2 continuous VTO-accel, 3 RVL, 2 decel-VL, and box pattern. Perform emergency procedures: brake failure, abort, no liftoff on STO, main generator failure (GEN, DC, and STBY TR Caution LTS), and cruise flaps landing. Review STOL flap STO, 1 CL to roll-and-go landing, 1 STOL flap VNSL and 1 press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-004.

SFAM-006 2.0 RNWST/WST S

Goal. Introduce takeoff/in-flight/landing checks, maneuvers, and emergency procedures.

Requirement. Perform 2 RVTO, crosswind decel-VL, 1 Hover Stop Slow Landing (HSSL), and 2 SAAHS-off decel-VL. Perform emergency procedures: over rotation on STO, standby TRU failure (STBY TR Caution Light), air start, and SAS failure. Review STOL flap STO, continuous VTO-accel, 1 STOL flap FNSL, 1 CL to roll-and-go landing, 2 RVL , and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-005.

SFAM-007 2.0 RNWST/WST S

Goal. Introduce takeoff/in-flight/landing checks, maneuvers, and emergency procedures.

Requirement. Perform 2 pedal turns and 2 non-continuous VTO. Perform emergency procedures: landing gear fails to retract, APU generator failure (APU GEN Caution Light), flap channel failure (flaps 1 or 2 caution), flap failure (flap warning light), and nose wheel steering caster failure. Review CTO, STOL flap STO, 2 STOL flap FNSL, 2 RVL, 2 crosswind decel-VL and press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-006.

SFAM-008 2.0 RNWST/WST S

Goal. Introduce emergency procedures. Practice takeoff/in-flight/landing checks and maneuvers.

Requirement. Perform 2 braking-stop decel-VL, 2 SAAHS-off RVL. Perform emergency procedures: uncommanded roll on VTO, uncommanded flap motion, uncommanded nose down pitch movement, landing gear fails to extend, and reaction control failure. Review STOL flap STO, 1 non-continuous VTO-accel, 1 STOL flap FNSL, 1 auto flap VNSL, 1 HSSL, 2 RVL, 1 SAAHS-off decel-VL, and press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-007.

SFAM-009 2.0 RNWST/WST S

Goal. Introduce emergency procedures. Practice takeoff/in-flight/landing checks and maneuvers.

Requirement. Perform emergency procedures: flight control malfunction and HYD 1 failure (HYD 1 caution light). Review CTO, STOL flap STO, 1 auto flap VNSL, touch-and-go landing, 1 STOL flap VNSL, 1 SAAHS-off RVL, 1 crosswind decel-VL, 2 continuous VTO-accel, 2 braking-stop decel-VL, 2 SAAHS-off decel-VL, and press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-008.

SFAM-010 2.0 RNWST/WST S

Goal. Introduce emergency procedures. Practice takeoff/in-flight/landing checks and maneuvers.

Requirement. Perform emergency procedures: single DECS failure (EFC Caution Light); dual DECS failure (JPTL warning light) or loss of engine control; engine mechanical failure engine vibration; and IGV failure. Review STOL flap STO, PAR, 2 CL, 2 STOL flap VNSL, 1 RVL, 2 continuous VTO-accel, 2 crosswind decel-VL, 2 SAAHS-off decel-VL, and press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-009.

SFAM-011 2.0 RNWST/WST S

Goal. Introduce emergency procedures. Practice takeoff/in-flight/landing checks and maneuvers.

Requirement. Perform emergency procedures: RPM fluctuation; compressor stall; fuel transfer failure (L trans / R trans caution light); and fuel low level (L fuel / R fuel caution light(s) flashing). Review CTO, TACAN approach, 1 STOL flap FNSL, STOL flap STO, 1 CL, 1 auto flap VNSL, 1 STOL flap VNSL, 1 RVL, RVTO, 1 crosswind decel-VL, 2 continuous VTO-accel, 1 braking-stop decel-VL, 1 SAAHS-off decel-VL, and press-up (pedal turn, box pattern).

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-010.

SFAM-012 2.0 RNWST S

Goal. Introduce emergency procedures and progress check.

Requirement. Perform emergency procedures: total electrical failure (GEN, APU GEN, DC, STBY TRU); NORDO; low altitude flameout; midair; and bird strike. Review CTO, PAR, 1 STOL flap FNSL, STOL flap STO, 1 CL, 1 auto flap VNSL, 1 STOL flap VNSL, 1 RVL, RVTO, 1 crosswind decel-VL, non-continuous VTO-accel, 1 braking-stop decel-VL, 1 SAAHS-off decel-VL, and press-up (pedal turn, box pattern).

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-011.

FAM-013 1.3 1 TAV-8B A

Goal. Introduce CTO, STOL flap STO, handling drills, and STOL flap FNSL, and auto flap VNSL.

Requirement. Perform ejection seat preflight, intercom system, and visual signals. Perform CTO, STOL flap STO, handling drills, approach to stall, clean dirty, VFR overhead, 2 STOL flap FNSL, and 2 auto flap VNSL. Conduct hot refueling, hot brake/de-arming inspection.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-012.

FAM-014 1.3 1 TAV-8B A

Goal. Introduce TACAN approach, roll-and-go landings, STOL flap VNSL, and press-up. Practice takeoff/in-flight/landing checks and maneuvers.

Requirement. Perform TACAN approach, waveoff, roll-and-go landing, 2 STOL flap VNSL, and 2 press-ups. Review CTO, STOL flap STO, handling drills, 2 STOL flap FNSL, and 2 auto flap VNSL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. FAM-013.

Range Requirements. MOA, RSTD.

FAM-015 1.3 1 TAV-8B A

Goal. Introduce PAR, CL, touch-and-go landings. Practice takeoff/in-flight/landing checks and maneuvers.

Requirement. Perform PAR, 4 CL, and touch-and-go landings. Review STOL flap STO, 2 STOL flap FNSL, roll-and-go landing, and 2 press-ups.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. FAM-014.

Range Requirements. MOA, RSTD.

FAM-016 1.3 1 TAV-8B A

Goal. Introduce RVL, VTO-accel, decel-VL, and box pattern. Practice takeoff/in-flight/landing checks and maneuvers.

Requirement. Perform 2 RVL, continuous VTO-accel, 1 decel-VL, and box pattern. Review STOL flap STO, PAR, TACAN, 1 press-up, 2 CL, 1 STOL flap VNSL, and roll-and-go landing.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. FAM-015.

FAM-017 1.3 1 TAV-8B A

Goal. Introduce RVTO and HSSL. Review takeoff/in-flight/landing checks, and procedures.

Requirement. Perform RVTO, HSSL, and cruise flap 1 decel-VL. Review STOL flap STO, 2 PAR, 2 RVL, 1 STOL flap FNSL, roll-and-go landing, 2 CL, continuous VTO-accel, 2 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. FAM-016.

FAM-018 1.3 1 TAV-8B A

Goal. Introduce pedal turn. Practice takeoff/in-flight/landing checks and procedures.

Requirement. Perform pedal turn and 1 crosswind decel-VL. Review CTO, STOL flap STO, PAR, VFR overhead, 1 STOL flap FNSL, 2 RVL, continuous VTO-accel, 2 decel-VL, and 2 press-ups.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. FAM-017.

FAM-019 1.3 1 TAV-8B A

Goal. Introduce SAAHS-off RVL. Practice touch-and-go landing, takeoff/in-flight/landing checks and procedures.

Requirement. Perform SAAHS-off RVL. Review touch-and-go landing, PAR, STOL flap STO, 1 STOL flap FNSL, 2 auto flap VNSL, 2 RVL, non-continuous VTO-accel, 1 crosswind decel-VL, and 1 press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. FAM-018.

SFAM-020 1.5 RNWST/WST S

Goal. Introduce instrument flight planning, instrument flight procedures, partial panel instrument procedures, unusual attitude flight, and approaches. Practice takeoff/in-flight/landing checks and procedures.

Requirement. Perform instrument flight planning, instrument climb profile, intermediate level-off procedures, maximum range cruise profile, partial panel instrument flight, unusual attitude flight, holding procedures, IFR penetration procedures, Tactical Air Navigation (TACAN) approach, missed approach procedures, and Ground Controlled Approach PAR. Review 1 STOL flap FNSL and 1 RVL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS and OPNAVINST 3710.

Prerequisite. FAM-019.

SFAM-021 1.5 RNWST/WST S

Goal. Introduce airways navigation on a round-robin flight. Practice instrument flight procedures and instrument flight planning, takeoff/in-flight/landing checks and procedures.

Requirement. Perform airways navigation on a round-robin flight using maximum range enroute procedures. Review instrument flight planning, instrument flight procedures, instrument climb profile, intermediate level-off procedures, maximum range cruise profile, partial panel, unusual

attitudes, holding procedures, IFR penetration procedures, TACAN approach, missed approach procedures, and PAR. Review 1 auto flap VNSL, and 1 RVL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS and OPNAVINST 3710.

Prerequisite. SFAM-020.

SFAM-022 1.5 RNWST/WST S

Goal. Introduce minimum fuel PAR. Review instrument flight procedures, airways navigation, and instrument flight planning.

Requirement. Perform minimum fuel PAR. Review instrument flight planning, instrument flight procedures, instrument climb profile, intermediate level-off procedures, maximum range cruise profile, airways navigation, IFR penetration procedures and missed approach procedures. Review 1 STOL flap FNSL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS and OPNAVINST 3710.

Prerequisite. SFAM-021.

FAM-023 1.5 1 TAV-8B A

Goal. Introduce instrument flight planning, instrument flight procedures, approach procedures, and missed approach procedures.

Requirement. Perform instrument flight planning, instrument climb profile, intermediate level-off procedures, maximum range cruise profile, unusual attitudes, holding procedures, IFR penetration procedures, TACAN approach, PAR, and missed approach procedures. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS and OPNAVINST 3710.

Prerequisite. SFAM-022.

FAM-024 1.5 1 TAV-8B A

Goal. Introduce airways navigation, round-robin flight, and minimum fuel GCA.

Requirement. Perform airways navigation, and minimum fuel PAR. Review instrument flight planning, instrument climb profile, intermediate level-off procedures, maximum range cruise profile, holding procedures, IFR penetration

procedures, TACAN approach, missed approach procedures, 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS and OPNAVINST 3710.

Prerequisite. FAM-023.

SFAM-025 1.5 RNWST/WST S

Goal. In-type instrument check.

Requirement. Perform a simulated IMC flight to include a non-precision approach to an unfamiliar field followed by a precision approach to that field or the home field. Review unusual attitude recovery.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS. Execute all instrument procedures IAW OPNAVINST 3710.

Prerequisite. IGS, FAM-024.

FAM-026 1.3 1 TAV-8B A

Goal. Introduce VFR straight-in and SAAHS-off decel to VL. Review takeoff/in-flight/landing checks, and procedures.

Requirement. PUI to conduct briefing. Perform VFR straight-in and SAAHS-off decel-VL. Review CTO, roll-and-go landing, VFR overhead, STOL flap STO, 1 STOL flap FNSL, 1 CL, 1 auto flap VNSL, 3 RVL, non-continuous VTO-accel, 1 decel-VL, and 1 press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. FAM-025.

SFAM-027 2.0 RNWST S

Goal. Introduce compound emergencies.

Requirement. Perform compound emergencies.

Performance Standards
Execute all procedures IAW AV-8B NATOPS.

Prerequisite. FAM-026.

FAM-028 1.3 1 TAV-8B A

Goal. Safe for solo check.

Requirement. Review CTO, PAR, STOL flap STO, 1 STOL flap FNSL, 1 CL, 1 auto flap VNSL, 1 STOL flap VNSL, roll-and-go landing, 1 RVL, VTO-accel, 1 decel-VL, and 1 press-up.

Performance Standards
Execute all procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-027.

FAM-029 1.3 1 AV-8B A

Goal. Solo Flight.

Requirement. Review CTO, GCA, STOL flap STO. Execute 1 STOL flap FNSL, 1 CL, 1 auto flap VNSL, 1 STOL flap VNSL, 1 roll-and-go landing, 1 RVL, VTO-accel, 1 decel-VL, 1 and press-up.

Performance Standards
Execute all procedures IAW AV-8B NATOPS.

Prerequisite. FAM-028.

3. Forward Base Operations (FBO)

a. Purpose. Develop the requisite skills for FBO.

b. General. A Landing Site Supervisor (LSS) shall supervise all events.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATOPS Manual (A1-AV8BB-NFM-000). Chapter 9 Paragraph 9.3, Forward Operating Base

(b) Air NTTP 3-22.1-AV8B. Chapter 25, Basing Flexibility

(2) Lectures

(a) FBO Stage Brief

(b) Receive the following AV-8B Courseware lectures:

1. V/STOL Concept of Operations

2. Forward Base Operations

(3) Chalk Talks/Practical Application. None.

(4) Exams. FBO Ground School exam.

d. Flight and Simulator Event Training. (3 Events, 2.6 Hours).

SFBO-030 1.0 RNWST/WST S

Goal. Introduce FBO and emergency procedures.

Requirement. Conduct FBO operations and simulated emergency procedures. Perform 3 maximum performance STO and 4 precision RVL at an air facility.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS. Achieve an average pass grade of 2.5.

Prerequisite. Complete FBO stage Ground/Academic training, FAM-029.

FBO-031 0.8 TAV-8B A

Goal. Introduce FBO.

Requirement. Conduct FBO operations at an air facility. Perform 3 maximum performance STO and 4 precision RVL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS. Achieve an average pass grade of 2.5.

Prerequisite. SFBO-030.

External Syllabus Support. Air Facility and LSS.

FBO-032 0.8 TAV-8B/AV-8B A

Goal. Review FBO.

Requirement. Review FBO operations. Perform 3 maximum performance STO, and 4 precision RVL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS. Achieve an average pass grade of 2.5.

Prerequisite. FBO-031.

External Syllabus Support. Air Facility with LSS.

4. Field Carrier Landing Practice (FCLP)

a. Purpose. Develop FCLP skills and qualify pilots FCLP(D).

b. General

(1) A launch officer and an Advanced or Training Day LSO are required for all events.

(2) A minimum of 30 vertical landings are required for completion.

(3) Completion of this stage constitutes FCLP(D) qualified.

c. Ground/Academic Training

(1) Readings

(a) VSTOL Shipboard and LSO NATOPS Manual (NAVAIR 00-80T-111)

1. Chapter 3, Field Carrier Landing Practice Procedures

2. Chapter 4, General Flight Procedures

3. Chapter 5, Deck Markings

4. Chapter 6, Recovery Procedures

5. Chapter 7, Deck Procedures

6. Chapter 8, Launch and Departure Procedures

7. Chapter 11, Emergency Procedures

8. Chapter 22, Communication

9. Chapter 23, Records

(b) LHA/LHD/MCS NATOPS Manual (NAVAIR 00-80T-106)

1. Chapter 4, Launching Aircraft

2. Chapter 5, Recovering Aircraft

(c) Air NTTP 3-22.1-AV8B. Section 25.4 Sea-Basing

(2) Lectures

(a) FCLP Stage Brief

(b) Receive the following AV-8B Courseware lectures:

1. Day Carrier Qualification, Part 1

2. Day Carrier Qualification, Part 2

3. Field Carrier Landing Practice

(3) Chalk Talks/Practical Application. None.

(4) Exams. FCLP Ground School exam.

d. Flight and Simulator Event Training. (7 Events, 7.0 Hours).

SFCLP-035 1.0 RNWST/WST S

Goal. Introduce day FCLP normal and emergency procedures.

Requirement. Perform day FCLP normal and emergency FCLP procedures to a simulated L-class ship. Perform a Case 1 recovery, 5 VL and 4 STO.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, VSTOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS. Achieve an average pass grade of 2.5.

Prerequisite. Complete FCLP stage Ground/Academic training, FAM-029.

FCLP-036 1.0 1 AV-8B A

Goal. Introduce day FCLP.

Requirement. Perform day FCLP normal and emergency FCLP procedures to a simulated L-class ship. Perform a Case 1 recovery, 5 VL, 4 STO, and test waveoff. Introduce launch officer signals.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, VSTOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS. Achieve an average pass grade of 2.5.

Prerequisite. SFCLP-035.

External Syllabus Support. Simulated L-Class ship with LSO and launch officer.

FCLP-037 1.0 1 AV-8B A

Goal. Introduce simulated NORDO approach. Review day FCLP.

Requirement. Perform simulated NORDO approach. Review day FCLP normal and emergency procedures to a simulated L-class ship. Review a Case 1 recovery, 5 VL, 4 STO, and launch officer signals.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, VSTOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS. Achieve an average pass grade of 2.5.

Prerequisite. FCLP-036.

External Syllabus Support. Simulated L-Class ship with LSO and launch officer.

FCLP-038 1.0 1 AV-8B A

Goal. Review day FCLP.

Requirement. Review day FCLP normal and emergency procedures to a simulated L-class ship. Review a Case 1 recovery, 5 VL, 4 STO, and launch officer signals.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, VSTOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS. Achieve an average pass grade of 2.5.

Prerequisite. FCLP-037.

External Syllabus Support. Simulated L-Class ship with LSO and launch officer.

FCLP-039 1.0 1 AV-8B A

Goal. Review day FCLP.

Requirement. Review day FCLP normal and emergency procedures to a simulated L-class ship. Review a Case 1 recovery, 5 VL, 4 STO, and launch officer signals.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, VSTOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS. Achieve an average pass grade of 2.5.

Prerequisite. FCLP-038.

External Syllabus Support. Simulated L-Class ship with LSO and launch officer.

FCLP-040 1.0 1 AV-8B A

Goal. Review day FCLP.

Requirement. Review day FCLP normal and emergency procedures to a simulated L-class ship. Review a Case 1 recovery, 5 VL, 4 STO, and launch officer signals.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, VSTOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS. Achieve an average pass grade of 2.5.

Prerequisite. FCLP-039.

External Syllabus Support. Simulated L-Class ship with LSO and launch officer.

FCLP-041 1.0 1 AV-8B A

Goal. Day FCLP qualification.

Requirement. Review day FCLP normal and emergency procedures to a simulated L-class ship. Review a Case 1 recovery, 5 VL, 4 STO, and launch officer signals.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, VSTOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS.

Achieve an average pass grade of 2.5.

Prerequisite. FCLP-040.

External Syllabus Support. Simulated L-Class ship with LSO and launch officer.

5. Formation

a. Purpose. Develop proficiency in section administrative formations.

b. General. A late stage FAM instructor is required for all events.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATOPS Manual (A1-AV8BB-NFM-000)

1. Chapter 9, Paragraph 9.1, Formation Flight

2. Chapter 22, Paragraph 22.4, Visual Communications

(b) Air NTTP 3-22.1-AV8B

1. Section 3.5 Tactical Formations and Maneuvering

2. Section 3.9 Battle Damage/Ordnance Checks

(2) Lectures

(a) FORM/TACFORM Stage Brief

(b) Receive the following AV-8B Courseware lectures:

1. Administrative Formation

2. Medium/High Altitude Tactical Formation

3. Low Altitude Tactical Formation

4. Division Tactical Formation

(3) Chalk Talks/Practical Application. None.

(4) Exams. Formation Ground School exam.

d. Flight and Simulator Event Training. (2 Events, 2.6 Hours).

FORM-045 1.3 2 TAV-8B or 1 AV-8B/1 TAV-8B A

Goal. Introduce administrative section formation.

Requirement. Perform taxi and marshal procedures, section CTO, stream STO, parade formation, cross under, lead change, cruise formation, running rendezvous, break up and rendezvous,

battle damage/ordnance checks, TACAN approach, and VFR break maneuver. Review 1 STOL flap FNSL and 1 auto flap VNSL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. Complete FORM stage Ground/Academic training, FAM-029.

Range Requirements. MOA , RSTD.

FORM-046 1.3 2 AV-8B A

Goal. Practice administrative section formation.

Requirement. Perform section PAR to low approach and full stop. Review taxi and marshal procedures, section stream STO, parade formation, cross under, lead change, cruise formation, running rendezvous, and break up and rendezvous. Review 1 CL, 1 RVL, and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. FORM-045.

Range Requirements. MOA, RSTD.

6. Advanced Aircraft Handling

a. Purpose. Develop the requisite skills to fly at slow speed, high G, high and low altitude. Introduce basic and advanced Low Altitude Tactics.

b. General. Instructor shall be a Low Altitude Tactics Instructor (LATI) and late stage FAM instructor.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATOPS Manual (A1-AV8BB-NFM-000). Review Chapter 11, Flight Characteristics

(b) Air NTTP 3.22-1-AV8B

1. Chapter 4, Low Altitude Tactics

2. Chapter 22, Aircraft Handling Techniques and Procedures.

(c) AV-8B NATIP (NTRP 3-22.4). Chapter 7, Aircraft Performance

(d) AV-8B TACSOP. Low Altitude Tactics

(e) NAVMC DIR 3510.14, Aviation Training and Readiness Program Manual. Chapter 4, LAT Rules of Conduct

(f) AV-8B McDonnell Aircraft Company Product Support Digest

1. AV-8B High AOA & Spin Program Part 1: Departure Resistance System

2. AV-8B High AOA & Spin Program Part 2: Spin Testing Phase

3. Departure Resistance System

4. Balancing Your DEPRES Account

5. Aerodynamic and Flight Control Improvements

6. Low Pressure Compressor Case Rub

(2) Lectures

(a) AAH Stage Brief

(b) Receive the following AV-8B Courseware lectures:

1. Aircraft Performance and Handling

2. AV-8B Departure Avoidance

3. 3D Maneuvering

4. Mission Crosscheck Time

(3) Chalk Talks/Practical Application. Aircraft Performance and Safety Working Group.

(4) Exams. Aircraft Handling and Departure Avoidance exam.

d. Flight and Simulator Event Training. (6 Events, 9.0 Hours).

SAAH-050 2.0 RNWST S

Goal. Introduce advanced aircraft handling.

Requirement. Perform G-awareness maneuver, FENCE checks, break and hard turns, aerobatics, 3-G weave, energy management and turn rate drills, accelerated/high speed stalls and slow speed departure. Review 1 STOL flap FNSL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. Complete AAH stage Ground/Academic training, FORM-046.

SAAH-051 2.0 RNWST S

Goal. Review advanced aircraft handling. Introduce basic LAT procedures and LAT rules of conduct.

Requirement. Perform RADALT checks, mission cross-check time (MCT), level high G turns, 50-percent rule, dive recovery rules, small descent rule, step down recovery, terminate, knock-it-off and climb-to-cope. Review G-awareness maneuver, FENCE checks, 1 CL and 1 STOL flap VNSL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. SAAH-050.

SAAH-052 2.0 RNWST S

Goal. Introduce advanced LAT procedures.

Requirement. Perform 2 Straight Oblique Jink (SOJ), 2 Vertical Jink (VJ), 2 Turning Oblique Jink (TOJ), 2 Reverse Oblique Jink (ROJ), 10-degree rule, and unloaded rolls. Review G-awareness maneuver, RADALT checks, FENCE checks, MCT, 50-percent rule, dive recovery rules, small descent rule, step down recovery, 1 auto flap VNSL, 1 decel-VL and 1 press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. SAAH-051.

AAH-053 1.0 1 TAV-8B A

Goal. Introduce advanced aircraft handling.

Requirement. Perform G-awareness maneuver, FENCE checks, unloaded rolls, hard turns, turn rate drill, aerobatics, and 3-G weave. Review 1 CL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. SAAH-052.

Range Requirements. MOA, RSTD.

AAH-054 1.0 1 TAV-8B A

Goal. Introduce advanced LAT procedures.

Requirement. Perform RADALT checks, MCT, level high-G turns, SOJ, ROJ, TOJ, VJ, 50-percent rule, dive recovery rules, small descent rule, step down recovery, immediate recovery, maximum recovery, terminate, knock-it-off, climb-to-cope, and 3-G jink. Review G-awareness maneuver FENCE checks, 1 CL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. AAH-053.

Range Requirements. MOA, RSTD.

AAH-055 1.0 2 AV-8B A

Goal. Introduce slow speed departure and break turns. Practice advanced LAT procedures.

Requirement. Perform a slow speed departure and break turns. Review turn rate drills, aerobatics, 1 SOJ, 1 TOJ, 1 ROJ, and 1 VJ, 1 RVL, and 1 auto flap VNSL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. AAH-054.

Range Requirements. MOA, RSTD.

7. Tactical Formation

a. Purpose. Develop proficiency in section tactical formations. Introduce division administrative and tactical formations.

b. General. A basic instructor pilot is required for all events.

c. Ground/Academic Training

(1) Readings. Air NTTP 3-22.1-AV8B. Review Section 3.5 Tactical Formations and Maneuvering

(2) Lectures. Review the following AV-8B Courseware lectures:

(a) Medium/High Altitude Tactical Formation

(b) Low Altitude Tactical Formation

(c) Division Tactical Formation

(3) Chalk Talks/Practical Application. None.

(4) Exams. None.

d. Flight and Simulator Event Training. (5 Events, 5.5 Hours).

TACFORM-060 1.1 2 TAV-8B A

Goal. Introduce section tactical formation at medium altitude.

Requirement. Perform offensive and defensive combat spread, deployed echelon formation, check turns, NAV turns, TAC turns, cross turns, hook turns, and shackle turns at medium altitude in the comm-in environment. Review 1 FNSL and 1 auto flap VNSL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. Complete TACFORM stage Ground/Academic training, AAH-055.

Range Requirements. MOA, RSTD.

TACFORM-061 1.1 2 AV-8B A

Goal. Introduce comm-out maneuvering at medium altitude.

Requirement. Perform fighter wing formation and comm-out maneuvering. Review offensive and defensive combat spread. Review check turns, NAV turns, TAC turns, cross turns, hook turns, and shackle turns at medium altitude in the comm-in environment. Review 1 STOL flap VNSL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. TACFORM-060.

Range Requirements. MOA, RSTD.

TACFORM-062 1.1 2 AV-8B A

Goal. Introduce section tactical formation at low level.

Requirement. Perform section formation as a wingman at low altitude. Perform defensive combat spread and comm-in turns to include check turns, NAV turns, TAC turns, cross turns, hook turns, and shackle turns at low level. Review RADALT checks, terrain clearance tasks, mission tasks (CT and NCMT), Mission Crosscheck Time (MCT) tasks, and G awareness maneuver. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. TACFORM-061.

Range Requirements. MOA, RSTD.

TACFORM-063 1.1 2 AV-8B A

Goal. Introduce section tactical formation at high altitude.

Requirement. Perform energy sustaining turns (chased) and section formation as a wingman at or above 25,000 feet. Review offensive combat spread and comm-in and comm-out turns to include check turns, NAV turns, TAC turns, cross turns, hook turns, and shackle turns. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. TACFORM-062.

Range Requirements. MOA, RSTD.

TACFORM-064 1.1 4 TAV-8B A

Goal. Introduce division formation at medium altitude.

Requirement. Perform division formation procedures including division marshal procedures, division stream STO, balanced parade formation, fingertip formation, running rendezvous, break up and rendezvous, division box, division cruise, deployed echelon, wedge, fluid 4 formations, and division VFR break. Review 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. TACFORM-063.

Range Requirements. MOA, RSTD.

8. Navigation

a. Purpose. Develop the requisite skills integrating aircraft navigation systems to plan and execute navigation flights using aeronautical charts and visual checkpoints.

b. General. A basic instructor pilot is required for all events.

c. Ground/Academic Training

(1) Readings. AV-8B NATIP (NTRP 3.22-4)

(a) Section 2.2, Inertial Navigation System

(b) Section 2.3, Global Positioning System

(2) Lectures

(a) NAV Stage Brief

(b) Receive the following AV-8B Courseware lectures:

1. Low Level Navigation

2. OSCAR Navigation Systems Changes

(3) Chalk Talks/Practical Application. None.

(4) Exams. Navigation Ground School exam.

d. Flight and Simulator Event Training. (2 Events, 3 Hours).

SNAV-065 1.5 RNWST S

Goal. Introduce navigation at low altitude.

Requirement. Perform navigation at low altitude on a MTR. Navigate to start point. Perform navigation at low level using systems, visual navigation techniques, chart interpretation, and visual checkpoint identification. Perform flyover of final point at preplanned TOT.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS. Over fly the final point within +/- 20 seconds of planned timing and within +/- 500 pounds of planned fuel.

Prerequisite. Complete NAV stage Ground/Academic training, AAH-055.

SNAV-066 1.5 RNWST S

Goal. Introduce navigation differences of OSCAR OFP.

Requirement. Perform navigation at low altitude on a MTR in an OSCAR configured simulator emphasizing MPCD display, TACAN, Waypoint, Markpoint, Command Speed/Time, Waypoint Overfly, Non-Sequential route strings, HUD symbology differences, Target point, Steer-to-point, Point of Interest, Quick Access, and Null Points.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS. Over fly the final point within +/- 20 seconds of planned timing and within +/- 500 pounds of planned fuel.

Prerequisite. SNAV-065.

9. Intercepts

a. Purpose. Introduce RADAR trail departures and intercepts against a non-maneuvering target.

b. General

(1) All flight events will be flown on a TACTS range.

(2) An RTO shall be used to the maximum extent possible.

(3) The instructor shall be ACM qualified.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATOPS Manual (A1-AV8BB-NFM-000). Chapter 7, Paragraph 7.3.4.6, RADAR Trail Departure

(b) AV-8B NATIP (NTRP 3.22-4)

1. Section 1.1, Electromagnetic Theory

2. Section 1.2, RADAR Theory

3. Section 2.1.1, RADAR Set Component Description

4. Section 2.1.3, Air-to-Air RADAR Modes and Operation

5. Section 2.1.4, RADAR Pre-Flight Management

(c) AV-8B Tactical Manual Volume III. Section 6.9, AN/APG-65 ECCM Displays

(d) Air NTTP 3-22.1-AV8B

1. Section 3.6 Combat Holding

2. Section 15.4 Tactical Intercepts

3. Section 16.3 Command and Control

4. Section 16.4 Bullseye Positioning With C1.0+ (87X)

(e) TACSOP

1. Anti-Air Warfare

2. ACM Training Rules

(f) ALSA Communication Brevity

(2) Lectures. Receive the following AV-8B Courseware lectures:

(a) RADAR Theory

(b) Air-to-Air RADAR Considerations

(c) Air-to-Air RADAR Controls and Displays

(d) Basic Intercept Geometry, Part 1

(e) Basic Intercept Geometry, Part 2

(f) Air-to-Air Search Techniques

(g) Introduction to Air Intercept Control

(h) APG-65 Classified Annex [SECRET]

(3) Chalk Talks/Practical Application. None.

(4) Exams. Air-to-Air RADAR and Intercepts exam.

d. Flight and Simulator Event Training. (7 Events, 9.9 Hours).

SINT-070 1.5 MTT S

Goal. Introduce A/A RADAR controls and displays.

Requirement. Utilize A/A RADAR controls and displays.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. Complete INT stage Ground/Academic training, FORM-046.

SINT-071 1.5 MTT S

Goal. Introduce A/A RADAR intercept.

Requirement. Perform 6 collision course intercepts on a non-maneuvering target.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SINT-070.

SINT-072 1.5 MTT S

Goal. Introduce RADAR intercept.

Requirement. Perform 4 break collision range (BCR) and 4 forward hemisphere all weather intercepts (AWI) on a non-maneuvering target. Review 1 collision course intercepts.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SINT-071.

SINT-073 1.5 RNWST S

Goal. Introduce RADAR intercepts and CAP procedures.

Requirement. Perform CAP procedures and 6 collision course intercepts on a non-maneuvering target.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SINT-072.

SINT-074 1.5 RNWST S

Goal. Introduce RADAR intercepts.

Requirement. Perform 3 BCR and 3 forward hemisphere AWI on a non-maneuvering target. Review CAP procedures and 1 collision course intercept.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SINT-073.

INT-075 1.2 2 AV-8B R A

Goal. Introduce RADAR intercepts.

Requirement. Perform RADAR trail departure, RADAR RWR checks, CAP procedures and 5 collision course intercepts on a non-maneuvering target. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SINT-074.

Ordnance. TACTS POD.

Range Requirements. AA, TACTS.

External Syllabus Support. TACTS debrief facility.

INT-076 1.2 2 AV-8B R A

Goal. Review RADAR intercepts.

Requirement. Perform 2 BCR and 3 AWI on a non-maneuvering target. Review RADAR trail departure, RADAR RWR checks, CAP management. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. INT-075.

Ordnance. TACTS POD.

Range Requirements. AA, TACTS.

External Syllabus Support. TACTS debrief facility.

10. Air-to-Air Refueling

a. Purpose. Introduce day Air-to-Air refueling procedures.

b. General

(1) An FRS AAR basic instructor pilot is required for all events.

(2) Completion of this stage constitutes day AAR qualified.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATOPS Manual (A1-AV8BB-NFM-000). Chapter 9, Paragraph 9.2, Air Refueling

(b) Aerial Refueling NATOPS Manual

(c) ATP-56(B), Air-to-Air Refueling

(d) AV-8B TACSOP. Air-to-Air Refueling

(2) Lectures

(a) AAR Stage Brief

(b) Receive the following AV-8B Courseware lectures: Aerial Refueling

(3) Chalk Talks/Practical Application. None.

(4) Exams. Aerial Refueling Ground School exam.

d. Flight and Simulator Event Training. (1 Event, 1.5 Hours).

AAR-080 1.5 2 AV-8B A

Goal. Day Air-to-Air Refueling qualification.

Requirement. Perform day in-flight refueling from a USMC/USN/USAF refueling platform in the comm-in environment. Perform 2 wet and 4 dry plugs. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Aerial Refueling NATOPS and TACSOP.

Prerequisite. Complete AAR stage Ground/Academic training, TACFORM-064.

Range Requirements. AAR.

External Syllabus Support. Aerial refueling platform.

11. Threat Countertactics (TCT)

a. Purpose. Introduce the AV-8B EW suite and surface-to-air threat countertactics.

b. General

(1) All flights shall be flown on an EW range with TACTS coverage.

(2) An RTO shall be used to the maximum extent possible.

(3) A Weapons Training Officer (WTO) and late stage FAM instructor shall instruct all events.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATOPS Manual (A1-AV8BB-NFM-000). Chapter 30, Expendable Dispensers

(b) Air NTTP 3-22.1-AV8B 3.22-1-AV8B

1. Section 24.1 Surface to Air Threat

2. Section 24.2 Surface to Air Threat Countertactics

3. Appendix B Prisoner of War Survey

4. Appendix C E-pole Determination

5. Appendix D Threat Countertactics Summary

(c) CY2004 User’s Manual

(d) ALSA Communication Brevity

(e) AV-8B TACSOP. Threat Countertactics

(2) Lectures

(a) TCT Stage Brief

(b) Receive the following AV-8B Classified Courseware lectures:

1. Expendable Decoys

2. ALR-67 RADAR Warning Receiver

3. ALE-39 Countermeasure Dispensing System

4. ALQ-164 Defensive Electronic Countermeasures

5. Threat RADAR Fundamentals

(c) MAWTS-1 Generic Courseware

1. Non-RF Surface-to-Air Missiles

2. RF Surface-to-Air Missiles

3. AAA Systems

4. Threat Briefing

(d) MAWTS-1 Common Courseware. Threat Countertactics

(3) Chalk Talks/Practical Application. None.

(4) Exams. Threat Countertactics Ground School exam.

d. Flight and Simulator Event Training. (4 Events, 5.0 Hours).

STCT-085 1.5 RNWST S

Goal. Introduce EW suite and surface-to-air threat countertactics at medium altitude.

Requirement. Perform setup and employment of the ALE-39, ALR-67, and ALQ-164. Perform ALSA communications, lean, notch, level-S, guns jink, SAM weave, and E-pole tactics. Utilize decision matrix for jettison criteria. Perform pre-emptive and reactive expendable game plans.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.
Satisfactory communications IAW ALSA Communication Brevity.

Prerequisite. Complete TCT stage Ground/Academic training, TACFORM-064.

STCT-086 1.5 RNWST S

Goal. Introduce medium to low altitude transition and surface-to-air threat countertactics at low altitude.

Requirement. Perform medium to low altitude deck transition, lean, notch, level-S, guns jink, and SAM weave at low altitude. Review ALSA communications, pre-emptive and reactive expendable game plans, and ALE-39, ALR-67, and ALQ-164 setup and employment.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.
Satisfactory communications IAW ALSA Communication Brevity.

Prerequisite. STCT-085.

TCT-087 1.0 2 AV-8B A

Goal. Introduce surface-to-air threat countertactics at medium and low altitude.

Requirement. As a chased aircraft, perform ALSA communications, lean, notch, level-S, guns jink, SAM weave and E-pole tactics at medium altitude. Perform medium to low deck transition, lean, notch, level-S, guns jink, and SAM weave at low altitude. Utilize decision matrix for jettison criteria. Perform pre-emptive and reactive expendable game plans. Review ALE-39, ALR-67, and ALQ-164 setup and employment. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.
Satisfactory communications IAW ALSA Communication Brevity.

Prerequisite. STCT-086, VCON-125.

Ordnance. ALQ-164, 40 chaff/10 flares, TACTS pod.

Range Requirements. TACTS range, Electronic Warfare range.

External Syllabus Support. TACTS, Hi Fi EW.

TCT-088 1.0 2 AV-8B A

Goal. Introduce section surface-to-air threat countertactics at medium altitude.

Requirement. Perform section surface-to-air threat countertactics and contracts to include lean, notch, level-S, and SAM weave. Utilize decision matrix for jettison criteria. Review ALSA communications, and pre-emptive and reactive expendable game plans. Review 1 STOL flap FNSL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. TCT-087.

Ordnance. ALQ-164, 40 chaff/10 flares, TACTS pod.

Range Requirements. TACTS, Hi Fi EW.

External Syllabus Support. TACTS/EW debrief facility.

12. Air-to-Surface

a. Purpose. Develop proficiency in Basic Conventional Weapons Delivery (BCWD) skills, section tactical formation, and ALSA communications.

b. General

(1) Scored ranges will be used to the maximum extent possible. If unavailable, performance criteria will be IAW the AV-8B TACSOP.

(2) A Weapons Training Officer (WTO) is required for all events.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATIP (NTRP 3-22.4)

1. Section 2.1.2 Air-to-Surface RADAR Modes and Operation
2. Section 2.4 Angle Rate Bombing System (ARBS)
3. Section 2.5 Stores Management Control Set (SMCS)
4. Section 4.1 Suspension / Carriage Equipment
5. Section 4.2 Air-to-Ground Stores
6. Section 4.5 Fuzing
7. Section 5.1 Weapon System Theory
8. Section 5.2 Controls & Displays
9. Section 5.3 Target Designation
10. Section 5.4 Delivery Modes
11. Section 5.5 Reversion Modes
12. Section 5.6 RADAR Attack Considerations
13. Section 5.7 Weapon Jettison
14. Section 5.8 Bombing
15. Section 5.9 Rocketry
16. Section 5.10 Gun Theory
17. Chapter 8 Weaponeering

(b) Air NTTP 3-22.1-AV8B

1. Section 7.1 General
2. Section 7.2 Air to Ground Timeline
3. Section 7.5 Dive Delivery Techniques
4. Section 7.7 Air to Ground Gunnery

5. Section 7.8 Rocketry

(c) AV-8B TACSOP. Air-to-Surface

(d) ALSA Communication Brevity

(2) Lectures

(a) AS Stage Brief

(b) Receive the following AV-8B Courseware lectures:

1. Introduction to Mission Publications
2. A/G Weapons Delivery Theory
3. Computed Delivery Theory
4. Suspension Equipment
5. GP Bombs
6. GP Bomb Fuzing
7. 25 mm Gun
8. Rockets
9. Weapon Limits and Restrictions
10. Weaponeering
11. Multiple Weapons Release Weaponeering
12. Forward-Firing Ordnance and Weaponeering
13. WARP
14. Laser Theory
15. Angle Rate Bombing System (ARBS)
16. Air-to-Surface RADAR Controls and Displays
17. RADAR Display Interpretation and Predictions
18. Air-to-Surface RADAR Procedures
19. Air-to-Surface RADAR Navigation and Attack
20. Height Above Target
21. Target Designation Methods
22. SMS & Weapon System Programming
23. SMS & Weapon System Programming OSCAR

24. Computed Weapons Delivery Modes

25. Degraded Weapons Delivery Modes

26. Weapon Delivery Procedures, Part 1

27. Weapon Delivery Procedures, Part 2

(3) Chalk Talks/Practical Application. JMPS Lab – Advanced Mission Planning

(4) Exams. Air-to-Surface Ground School exam.

d. Flight and Simulator Event Training. (14 Events, 18 Hours).

SAS-090 1.5 MTT S

Goal. Introduce A/S RADAR controls and displays.

Requirement. Utilize A/S RADAR controls and displays.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. Complete AS stage Ground/Academic training, TCT-088.

SAS-091 1.5 MTT S

Goal. Introduce A/S RADAR modes.

Requirement. Utilize A/S RADAR modes to navigate and track surface targets.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SAS-090.

Ordnance. 6 Mk-76.

SAS-092 1.5 RNWST/WST S

Goal. Introduce computed weapon delivery from medium altitude.

Requirement. Perform 6 30-degree and 6 45-degree BCIP/GCIP deliveries. Perform weapon system programming. Utilize adaptive roll-in technique, target placement angle, and curvilinear to straight path tracking. Perform off target maneuvers. Demonstrate knowledge of jettison system. Utilize WARP to generate weaponeering data.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SAS-091.

Ordnance. 12 Mk-76.

SAS-093 1.5 RNWST/WST S

Goal. Introduce 10-degree computed deliveries.

Requirement. Perform 8 10-degree deliveries of high drag and low drag ordnance. Utilize the adaptive roll-in technique, target placement angle, and curvilinear to straight path tracking. Perform off target maneuvers TACSOP. Utilize WARP to generate weaponeering data.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SAS-092.

Ordnance. 6 Mk-76, 2 Mk-82 HD.

SAS-094 1.5 WST S

Goal. Introduce ARBS/TV deliveries.

Requirement. Perform a WOF update/designation. Perform the J-hook maneuver and straight path to straight path tracking. Utilize the ARBS/TV mode of the DMT to generate height above target data for CCIP and AUTO deliveries. Perform CCIP to AUTO conversions and a point blank bomb pickle. Review 6 30-degree and 6 45-degree deliveries. Utilize WARP to generate weaponeering data.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SAS-093.

Ordnance. 12 Mk-76.

SAS-095 1.5 WST S

Goal. Introduce ARBS/LST deliveries.

Requirement. Perform 6 30-degree and 6 45-degree ARBS/LST deliveries. Review J-Hook maneuver, straight path to straight path tracking, and ARBS/TV deliveries. Utilize WARP to generate weaponeering data.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SAS-094.

Ordnance. 12 Mk-76.

SAS-096 1.5 RNWST S

Goal. Introduce AGR mode and OSCAR differences.

Requirement. Perform OSCAR weapon system programming. Review 6 30-degree and 6 45-degree deliveries using curvilinear to straight path tracking, CCIP and AUTO releases. Utilize RADAR AGR for height above target. Utilize WARP to generate weaponeering data.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SAS-095.

Ordnance. 12 Mk-76.

SAS-097 1.5 NAWST/RNWST/WST S

Goal. Introduce GAU-12 and Rocket deliveries.

Requirement. Perform 4 10-degree GAU-12 and 8 20-degree 5.00” Zuni Rocket deliveries. Utilize the safe escape table and maximum fragmentation envelope chart to ensure safe releases. Utilize WARP to generate weaponeering data.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SAS-093.

Ordnance. 300 rounds 25 mm, 8 5.00” Zuni Rockets.

AS-098 1.0 1 TAV-8B A

Goal. Introduce computed weapons deliveries.

Requirement. Perform 6 30-degree or 45-degree BCIP/GCIP deliveries. Perform weapon preflight and weapon system programming. Utilize the adaptive roll-in technique, target placement angle, and curvilinear to straight path tracking. Perform off target maneuvers. Perform off target rendezvous. Utilize WARP to generate weaponeering data. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SAS-096, VCON-127.

Ordnance. 6 Mk-76.

Range Requirements. RKD RNG.

AS-099 1.0 2 AV-8B A

Goal. Practice medium angle deliveries.

Requirement. PUI perform briefing. Perform 6 30-degree or 45-degree BCIP/GCIP deliveries. Review weapon preflight. Review weapon system programming. Review adaptive roll-in technique, target placement angle, and curvilinear to straight path tracking. Review off target maneuvers and rendezvous. Utilize WARP to generate weaponeering data. Review 1 auto flap VNSL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. AS-098.

Ordnance. 6 Mk-76, 20 Flares.

Range Requirements. RKD RNG, EXP.

AS-100 1.0 2 AV-8B – NA A

Goal. Introduce ARBS/TV deliveries.

Requirement. Perform 6 30-degree or 45-degree ARBS/TV deliveries utilizing the J hook maneuver and straight path to straight path tracking. Review adaptive roll in technique, off target maneuvers, and off target rendezvous. Utilize WARP to generate weaponeering data. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. AS-099.

Ordnance. 6 Mk-76, 20 Flares.

Range Requirements. RKD RNG, EXP.

AS-101 1.0 2 AV-8B - R A

Goal. Introduce AGR mode.

Requirement. Perform 6 30-degree or 45-degree CCIP releases utilizing target placement angle and curvilinear to straight path tracking. Utilize RADAR AGR for height above target. Utilize WARP to generate weaponeering data. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. AS-099.

Ordnance. 6 Mk-76, 20 Flares.

Range Requirements. RKD RNG, EXP.

AS-102 1.0 1 TAV-8B A

Goal. Introduce 10-degree deliveries with low drag ordnance.

Requirement. Perform 6 10-degree CCIP deliveries of low drag ordnance. Utilize WARP to generate weaponeering data. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. AS-099.

Ordnance. 6 Mk-76.

Range Requirements. RKD RNG.

AS-103 1.0 2 AV-8B A

Goal. Introduce GAU-12 employment and 10-degree deliveries with high drag ordnance.

Requirement. Perform 2 10-degree GAU-12 deliveries. Utilize the safe escape table and maximum fragmentation envelope chart to ensure safe releases. Perform 2 10-degree deliveries with high drag ordnance. Utilize WARP to generate weaponeering data. Review 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SAS-097, AS-100, AS-101, AS-102.

Ordnance. 300 rounds 25 mm TP, 2 BDU-45 HD, 20 Flares.

Range Requirements. STRAFE, HVY INERT, WISS, EXP.

13. Target Area Tactics

a. Purpose. Develop proficiency in Target Area Tactics, section tactical formation, contract adherence and communication. Introduce TPOD and PGM employment.

b. General

(1) Scored ranges will be used to the maximum extent possible. If unavailable, performance criteria will be IAW the AV-8B TACSOP.

(2) A WTO required for all events.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATIP (NTRP 3-22.4). Section 2.11 Litening Targeting Pod (TPOD) C1+

(b) Air NTTP 3-22.1-AV8B

1. Chapter 6, Air to Surface Mission Planning Considerations

2. Section 7.3, Contracts

3. Section 7.4, Transition Profiles

4. Section 7.6, Standoff Delivery Profiles

5. Section 7.9, Laser Guided Bomb Attacks and Considerations

6. Section 7.10, Standard Target Area Tactics

(c) AV-8B TACSOP. Air-to-Surface

(d) MAWTS-1 Paveway II LGB Handbook

(2) Lectures

(a) MECH Stage Brief

(b) Receive the following AV-8B Courseware lectures:

1. Target Acquisition/Detection/ID

2. Attack Profiles

3. Laser Guided Bombs and Laser Guided Training Rounds

4. Standard Target Area Tactics

5. Air-to-Surface (A/S) Planning & Timeline Management

6. Reactive Weaponeering

7. Introduction to Litening II Targeting Pod

8. Litening II Employment

9. Introduction to the Litening II Targeting Pod (OSCAR)

10. Litening II Targeting Pod (TPOD) Capabilities

(3) Chalk Talks/Practical Application. Transition Profiles Planning Lab

(4) Exams. Target Area Tactics Ground School exam.

d. Flight and Simulator Event Training. (11 Events, 13 Hours).

SMECH-105 1.5 RNWST/WST S

Goal. Introduce transition profiles, heavyweight aircraft handling, and reactive weaponeering.

Requirement. Perform 3 30-degree or 45-degree deliveries and 2 PGM deliveries: 1 level entry to a 45 or 30-degree dive delivery, 1 ramp entry to level delivery; and 1 ramp entry to a 45 or 30-degree dive delivery. Utilize WARP to generate weaponeering data including reactive weaponeering.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. Complete MECH stage Ground/Academic training, AS-103.

Ordnance. 6 Mk-82 LD, 2 GBU-12.

SMECH-106 1.5 RNWST/WST S

Goal. Introduce low altitude transition profiles.

Requirement. Perform 4 transition profile attacks: 1 low altitude pop-up to 10-degree delivery; 1 cruise climb to 45 or 30-degree delivery; 1 loft delivery and 1 transition attack. Review WARP and reactive weaponeering.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SMECH-105.

Ordnance. 6 Mk-82 HD/LD ITER.

SMECH-107 1.5 RNWST S

Goal. Introduce TPOD controls and displays.

Requirement. Utilize TPOD controls and displays.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. Complete MECH stage Ground/Academic training.

Ordnance. TPOD.

SMECH-108 1.5 RNWST S

Goal. Introduce PGM employment. Introduce PGM weaponeering.

Requirement. Perform 6 PGM attacks: 1 Crank Buddy-Lase, 1 Direct Buddy-Lase, and 1 Podium Buddy-Lase, 1 Crank Self-Lase, 1 Direct Self-Lase, and 1 Podium Self-Lase. Utilize WARP and PMPT to generate weaponeering data.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SMECH-105, SMECH-107.

Ordnance. 4 GBU-12 on ITER, TPOD.

MECH-109 1.0 2 AV-8B A

Goal. Introduce transition profiles.

Requirement. Perform 3 30-degree or 45-degree deliveries: 1 level entry to a 45 or 30-degree dive delivery, 1 ramp entry to level delivery; and 1 ramp entry to a level delivery. Review WARP, reactive weaponeering, 1 RVL, and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SMECH-105.

Ordnance. 4 Mk-82 LD.

Range Requirements. HE.

MECH-110 1.0 1 TAV-8B A

Goal. Introduce low altitude transition profiles.

Requirement. Perform 4 transition profile attacks: 1 low altitude pop-up to 10-degree delivery; 1 cruise climb to 45 or 30-degree delivery; 1 loft, and 1 transition attack. Review WARP, reactive weaponeering, 1 STOL flap FNSL, and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SMECH-106.

Ordnance. 6 Mk-76.

Range Requirements. TGT, WISS.

MECH-111 1.0 2 TAV-8B A

Goal. Introduce section target area tactics at medium altitude.

Requirement. Perform 5 attacks to 30-degree or 45-degree dive deliveries: 2 same side attacks; 2 swept attacks; and 1 split attack. Review WARP, 1 STOL flap FNSL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. MECH-109.

Ordnance. 6 Mk-76.

Range Requirements. TGT, WISS.

MECH-112 1.0 2 AV-8B A

Goal. Review section target area tactics at medium altitude.

Requirement. Review 5 attacks to 30-degree or 45-degree dive deliveries: 2 same side attacks; 2 swept attacks; and 1 split attack. Review WARP, 1 CL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. MECH-111.

Ordnance. 6 Mk-76, Flares.

Range Requirements. TGT, WISS, EXP.

MECH-113 1.0 2 AV-8B A

Goal. Introduce section target area tactics at low altitude.

Requirement. Perform 1 chased single ship low pop to 10-degree delivery. Perform 2 same side attack and 2 split attacks to 10-degree deliveries. Review WARP, 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. MECH-110, MECH-112.

Ordnance. 6 MK-76.

Range Requirements. TGT, WISS.

MECH-114 1.0 2 AV-8B A

Goal. Introduce buddy-lase target area tactics and PGM employment.

Requirement. As a wingman, perform 4 attacks using buddy-lase tactics: 1 Crank Buddy-Lase; 1 Direct Buddy-Lase, 1 Podium Buddy-Lase, and 1 Buddy-Lase Dive. Review WARP and PMPT weaponeering, 1 decel-VL and 1 press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. SMECH-108, MECH-112.

Ordnance. TPOD, LGTR, 3 MK-76, and 10 Flares.

Range Requirements. TGT, WISS, LSR, EXP.

MECH-115 1.0 2 AV-8B A

Goal. Review buddy-lase target area tactics and PGM employment.

Requirement. As a wingman, perform 4 attacks using buddy-lase tactics: 1 Crank Buddy-Lase; 1 Direct Buddy-Lase, 1 Podium Buddy-Lase, and 1 Buddy-Lase Dive. Review WARP and PMPT weaponeering, 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and TACSOP.

Prerequisite. MECH-114.

Ordnance. TPOD, LGTR, 3 MK-76, and 10 Flares.

Range Requirements. TGT, WISS, LSR, EXP.

14. Close Air Support (CAS)

a. Purpose. Introduce CAS at medium and low altitude.

b. General

(1) Scored ranges will be used to the maximum extent possible. If unavailable, performance criteria will be IAW the AV-8B TACSOP.

(2) A WTO is required for all events.

c. Ground/Academic Training

(1) Readings

(a) Joint Publication 3-09.3, Joint Tactics, Techniques, and Procedures for Close Air Support

1. Executive Summary

2. Chapter I, Introduction, Organization and Fundamentals

3. Chapter III, Planning and Requesting

4. Close Air Support Planning Considerations

5. Integrating Close Air Support with Surface Fire Support

6. Requesting Close Air Support

7. Chapter IV, Preparation

8. Chapter V, Execution

9. Appendix C, Sample Close Air Support Aircrew Mission Planning Guide

10. Appendix D, Risk-Estimate Distances

(b) AV-8B NATIP (NTRP 3-22.4). 2.10.3 The CAS Display

(c) Air NTTP 3-22.1-AV8B. Chapter 9, Close Air Support

(d) AV-8B TACSOP. Close Air Support

(2) Lectures

(a) CAS Stage Brief

(b) Receive the following AV-8B Courseware lectures:

1. OAS Overview

2. Close Air Support (CAS)

3. CAS Execution

(3) Chalk Talks/Practical Application. CAS Planning Lab

(4) Exams. CAS Ground School exam.

d. Flight and Simulator Event Training. (5 Events, 6.0 Hours).

SCAS-120 1.5 RNWST S

Goal. Introduce CAS at medium altitude.

Requirement. Perform 4 CAS attacks at medium altitude: 3 with Type 1 and 1 with Type 2 terminal attack control. Introduce the 9-line CAS briefing format and attack preparation checklist. Review WARP and reactive weaponeering.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, JPub 3-09.3 and AV-8B TACSOP.

Prerequisite. Complete CAS stage Ground/Academic training, MECH-115.

Ordnance. 6 Mk-82 LD.

SCAS-121 1.5 RNWST S

Goal. Introduce CAS at low altitude.

Requirement. Perform 4 CAS attacks at low altitude: 3 with Type 1 and 1 with Type 2 terminal attack control. Review the 9-line CAS briefing format, attack preparation checklist, WARP and reactive weaponeering.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, JPub 3-09.3 and AV-8B TACSOP.

Prerequisite. SCAS-120.

Ordnance. Mk-82 HD.

CAS-122 1.0 TAV-8B A

Goal. Introduce CAS at medium altitude.

Requirement. Perform 3 CAS attacks at medium altitude: 2 with Type 1 and 1 with Type 2 terminal attack control. Introduce the 9-line CAS briefing format and attack preparation checklist. Review WARP, reactive weaponeering, 1 STOL flap FNSL, and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, JPub 3-09.3 and AV-8B TACSOP.

Prerequisite. SCAS-120.

Ordnance. 6 MK-76.

Range Requirements. TGT.

External Syllabus Support. FAC, FAC(A) or simulated FAC(A) with marking capability.

CAS-123 1.0 2 AV-8B A

Goal. Review CAS at medium altitude.

Requirement. Review 3 CAS attacks at medium altitude: 2 with Type 1 and 1 with Type 2 terminal attack control. Review the 9-line CAS briefing format, attack preparation checklist, WARP, reactive weaponeering, 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, JPub 3-09.3 and AV-8B TACSOP.

Prerequisite. CAS-122.

Ordnance. 6 MK-76, 20 Flares.

Range Requirements. TGT, EXP.

External Syllabus Support. FAC, FAC(A) or simulated FAC(A) with marking capability.

CAS-124 1.0 2 AV-8B A

Goal. Introduce CAS at low altitude.

Requirement. Review 3 CAS attacks at low altitude under Type 1 terminal attack control. Review the 9-line CAS briefing format, attack preparation checklist, WARP, reactive weaponeering, 1 STOL flap FNSL, and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, JPub 3-09.3 and AV-8B TACSOP.

Prerequisite. SCAS-121, CAS-123.

Ordnance. 6 MK-76, 20 Flares.

Range Requirements. TGT, EXP.

External Syllabus Support. FAC or SCAR with marking capability.

15. V/STOL Consolidation

a. Purpose. V/STOL consolidation flights are to maintain/regain proficiency of all takeoff and landing procedures after Threat Counter Tactics, Air-to-Surface, and Air-to-Air Ground/Academic training.

b. General. A qualified FRS Landing Site Instructor (LSI) shall supervise all solos.

c. Ground/Academic Training. None.

d. Flight and Simulator Event Training. (4 Events, 4.9 Hours).

VCON-125 1.3 1 AV-8B A

Goal. V/STOL Consolidation.

Requirement. Review STOL flap STO, TACAN Approach, 1 STOL flap FNSL, 1 CL, 1 auto flap VNSL, 1 STOL flap VNSL, roll-and-go landing, 1 RVL, VTO-accel, 1 decel-VL, and 1 press-up.

Performance Standards
Execute all procedures IAW AV-8B NATOPS.

Prerequisite. Complete TCT stage Ground/Academic training, FAM-029.

SVCON-126 1.0 RNWST/NAWSTS S

Goal. Review Emergency procedures.

Requirement. Perform compound emergencies.

Performance Standards
Execute all procedures IAW AV-8B NATOPS.

Prerequisite. Complete AS stage Ground/Academic training, FAM-029.

VCON-127 1.3 1 AV-8B A

Goal. V/STOL Consolidation.

Requirement. Review STOL flap STO, TACAN Approach, 1 STOL flap FNSL, 1 CL, 1 auto flap VNSL, 1 STOL flap VNSL, 1 roll-and-go landing, 1 RVL, VTO-accel, 1 decel-VL, and 1 press-up.

Performance Standards
Execute all procedures IAW AV-8B NATOPS.

Prerequisite. SVCON-126.

VCON-128 1.3 1 AV-8B A

Goal. V/STOL Consolidation.

Requirement. Review STOL flap STO, PAR, VFR overhead, 1 STOL flap FNSL, 1 CL, 1 auto flap VNSL, 1 STOL flap VNSL, roll-and-go landing, 1 RVL, VTO-accel, 1 decel-VL, and 1 press-up.

Performance Standards
Execute all procedures IAW AV-8B NATOPS.

Prerequisite. Complete AA stage Ground/Academic training, FAM-029.

16. Air-to-Air (AA)

a. Purpose. Introduce Basic Fighter Maneuvers and air-to-air weapon employment.

b. General

(1) An ACTI is required for all events.

(2) All training will be conducted IAW Air Combat Maneuvering Training Rules (ACMTR).

(3) Every sortie brief shall include applicable ACMTR, detail, aircraft handling characteristics, pertinent aircraft limitations and departure avoidance techniques.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATOPS Manual (A1-AV8BB-NFM-000)

1. Chapter 4, Operating Limitations

2. Chapter 11, Conventional Flight Characteristics

(b) AV-8B NATIP (NTRP 3-22.4)

1. Chapter 6, Air-to-Air Weapon Delivery

2. Chapter 7, Aircraft Performance Data

3. Appendix A, Aircraft and Stores Limitations

(c) Air NTTP 3-22.1-AV8B

1. Section 15.1, Introduction

2. Section 15.2, Purpose

3. Section 15.3, Basic Fighter Maneuvers

4. Chapter 22, Aircraft Handling Techniques and Procedures

5. Section 24.3 Air to Air Threat Countertactics

6. Appendix A USMC Shot/Kill Criteria Validation

(d) AV-8B TACSOP. Basic Fighter Maneuvers

(e) NATOPS General Flight and Operating Instructions (OPNAV 3710.7). Chapter 5, Flight Rules

(f) NAVMC DIR 3500.14 Aviation Training and Readiness Program Manual. Chapter 4, Aviation Training Rules of Conduct

(g) TOPGUN Manual

1. Chapter 9, Rule of Thumb

2. Chapter 11, Threat Aircraft

3. Chapter 12, Threat RADAR Missiles

4. Chapter 13, Threat IR Missiles

5. Chapter 21, Combat Gunnery

6. Chapter 22, AIM-9 Sidewinder

7. Chapter 39, AIC Control

(2) Lectures

(a) AA Stage Brief

(b) Receive the following AV-8B Courseware lectures:

1. Air Combat Maneuvering (ACM) Safety and Air-to-Air Systems

2. Fighter Performance Comparisons

3. AIM-9 Sidewinder, Part I

4. AIM-9 Sidewinder, Part II

5. Combat Gunnery

6. Shot Validation

7. Combat Thrust Vector Control (CTVC)

8. Threat Aircraft

9. 1v1 Basic Fighter Maneuvers (BFM)

(3) Chalk Talks/Practical Application. None.

(4) Exams. AA Ground School exam.

d. Flight and Simulator Event Training. (9 Events, 10.5 Hours).

SAA-130 1.5 RNWST/WST S

Goal. Introduce BFM handling.

Requirement. Perform high and slow speed departure recovery; energy management drills for airspeed control, AOA control, and POM effects; turn rate and slow speed/high AOA drills; level, oblique, and vertical break turns; and 250-knot loops.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, NAVMC DIR P3500.14 and TACSOP.

Prerequisite. Complete AA stage Ground/Academic training, CAS-124.

SAA-131 2.0 RNWST S

Goal. Introduce aircraft Thrust Vector Control (TVC) and RADAR ACM modes. Introduce air-to-air weapon employment and IR Missile Defense. Practice high and slow speed departure recovery.

Requirement. Perform TVC straight and level, TVC assisted turn, and TVC slow speed/high AOA drills; TVC Hover Stop Push Over (HSPO), flop, Hover Stop Wing Over (HSWO), and TVC spiral drill; AIM-9 boresight and coolant management; Heat-to-Guns drill; and IRMD drill utilizing APG-65 and ALE-39. Review high and slow speed departure recovery.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, NAVMC DIR P3500.14 and TACSOP.

Prerequisite. SAA-130.

AA-132 1.0 2 AV-8B A

Goal. Introduce air-to-air weapon employment, aircraft handling, and TVC.

Requirement. Perform AIM-9 preflight, energy management drills, turn rate and slow speed/high AOA drills, 250-knot loops, break turns, TVC straight and level, TVC assisted turn, TVC slow speed/high AOA drills, TVC HSPO, and HSWO. Review G-awareness maneuver, 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, NAVMC DIR P3500.14 and TACSOP.

Prerequisite. SAA-131, VCON-128.

Ordnance. CAIM-9M-8, TACTS Pod.

Range Requirements. AA, TACTS.

External Syllabus Support. TACTS debrief facility.

AA-133 1.0 2 AV-8B A

Goal. Introduce BFM procedures and drills.

Requirement. Perform AIM-9 bore sight and range estimation drill; flat scissors, rolling scissors, and heat-to-guns drills; vertical maneuvering drills; deck transition

(positional, energy rate) and separation/bug drills; GAU-12 snapshot guns weave drill; and redefine rate fight drills, cooperative and non-cooperative. Review AIM-9 preflight, G-awareness maneuver, 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, NAVMC DIR P3500.14 and TACSOP.

Prerequisite. AA-132.

Ordnance. CAIM-9M-8, TACTS Pod, 20 flares.

Range Requirements. AA, TACTS.

External Syllabus Support. TACTS debrief facility.

AA-134 1.0 2 AV-8B R A

Goal. Introduce 1 V 1 offensive BFM.

Requirement. Perform 2 3000-foot and 2 6000-foot perch offensive engagements. Include instruction of turn circle entry, attack window timing, offensive break turn, control zone entry/management, misaligned turn circle maneuvering, offensive rate fight, and ditch counter. Review rolling scissors and snapshot guns weave drills; and 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, NAVMC DIR P3500.14 and TACSOP.

Prerequisite. AA-133.

Ordnance. CAIM-9M-8, TACTS Pod, 20 flares.

Range Requirements. AA, TACTS.

External Syllabus Support. TACTS debrief facility.

AA-135 1.0 2 AV-8B R A

Goal. Introduce RADAR ACM modes. Review 1 V 1 offensive BFM.

Requirement. Review 2 3000-foot and 2 6000-foot perch offensive engagements utilizing RADAR ACM modes. Include instruction of turn circle entry, attack window timing, offensive break turn, control zone entry/management, misaligned turn circle maneuvering, offensive rate fight, and ditch counter. Review flat scissors and snapshot guns weave drills; and 1 STOL flap VNSL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, NAVMC DIR P3500.14 and TACSOP.

Prerequisite. AA-134.

Ordnance. CAIM-9M-8, TACTS Pod, 20 flares.

Range Requirements. AA, TACTS.

External Syllabus Support. TACTS debrief facility.

AA-136 1.0 2 AV-8B A

Goal. Introduce 1 V 1 defensive BFM.

Requirement. Perform 2 3000-foot and 2 6000-foot perch defensive engagements. Include instruction of defensive break turn, pre-emptive and reactive expendable employment, maintaining sight techniques, executing lost sight game plan, sensor nose recognition, ditch maneuver, overshoot recognition and counters, defensive rate fighting, and guns defense. Review rolling scissors and heat-to-guns drills; and 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, NAVMC DIR P3500.14 and TACSOP.

Prerequisite. AA-135.

Ordnance. CAIM-9M-8, TACTS Pod, 20 flares.

Range Requirements. AA, TACTS.

External Syllabus Support. TACTS debrief facility.

AA-137 1.0 2 AV-8B A

Goal. Review 1 V 1 defensive BFM.

Requirement. Review 3000-foot and 2 6000-foot perch defensive engagements. Include instruction of defensive break turn, pre-emptive and reactive expendable employment, maintaining sight techniques, executing lost sight game plan, sensor nose recognition, ditch maneuver, overshoot recognition and counters, defensive rate fighting, and guns defense. Review heat-to-guns drill, 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, NAVMC DIR P3500.14 and TACSOP.

Prerequisite. AA-136.

Ordnance. CAIM-9M-8, TACTS Pod, 20 flares.

Range Requirements. AA, TACTS.

External Syllabus Support. TACTS debrief facility.

AA-138 1.0 2 AV-8B R A

Goal. Introduce 1 V 1 neutral BFM.

Requirement. Perform 3 neutral engagements from a butterfly setup. Introduce merge control; and 2-circle out-of-plane, 1-circle in-plane, and 1-circle out-of-plane flows. Review 1 3000-foot offensive and 1 6000-foot defensive perches; snapshot guns weave drill, 1 STOL flap FNSL, and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, NAVMC DIR P3500.14 and TACSOP.

Prerequisite. AA-137.

Ordnance. CAIM-9M-8, TACTS Pod, 20 flares.

Range Requirements. AA, TACTS.

External Syllabus Support. TACTS debrief facility.

17. Night Systems (NS)

a. Purpose. Introduce Night Vision Devices (NVDs) and night systems formation using NVDs.

b. General

(1) PUI shall have 50 AV-8B or TAV-8B flight hours prior to commencing this stage.

(2) All flights shall be lead by a designated FRS Night Systems Familiarization Instructor (NSFI).

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATOPS Manual (A1-AV8BB-NFM-000). Chapter 29, Forward Looking Infrared Navigation System

(b) AV-8B NATIP (NTRP 3-22.4)

1. Section 2.6 Night Vision Goggles

2. Section 2.7 NAVFLIR

(c) Air NTTP 3-22.1-AV8B 3.22-1-AV8B

1. Section 3.7, Aircraft Lighting Packages

2. Chapter 5, Night Systems

(d) TACSOP

1. General Standards

2. Night Systems

(2) Lectures

(a) NS Stage Brief

(b) Receive the following AV-8B Courseware lectures:

1. Night Flying Environment and Physiology

2. Infrared Theory

3. Navigation FLIR

4. Night Flying Procedures

5. Aided Night Flying Procedures

(3) Chalk Talks/Practical Application. NITE Lab

(4) Exams. NS Ground School exam.

d. Flight and Simulator Event Training. (6 Events, 8.2 Hours).

SNS-140 1.5 RNWST S N

Goal. Introduce night V/STOL procedures and NVD usage.

Requirement. Perform unaided STOL flap STO, 2 STOL flap FNSL, 2 STOL flap VNSL, 2 RVL, VTO-accel, 1 decel-VL, 1 press-up, touch-and-go, and roll-and-go landings. Perform don/doff procedures airborne and conduct NVD environmental assessment.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. Complete NS stage Ground/Academic training, CAS-124.

SNS-141 1.5 RNWST S NS

Goal. Introduce night V/STOL procedures with NVD.

Requirement. Perform night flight using NVD. Perform ground don/doff procedures, familiarization, and aided STOL flap STO, 3 STOL flap FNSL, 3 RVL, 2 decel-VL, and press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. SNS-140.

NS-142 1.3 1 TAV-8B A N

Goal. Introduce night V/STOL procedures and NVD usage.

Requirement. Perform unaided STOL flap STO. Perform don/doff procedures airborne and conduct NVD environmental assessment. Perform TACAN approach, 2 STOL flap FNSL, 2 STOL flap VNSL, 2 RVL, touch-and-go and roll-and-go landings, VTO-accel, 1 decel-VL, and 1 press up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. SNS-141.

Range Requirements. MOA, RSTD.

NS-143 1.3 2 TAV-8B A N

Goal. Introduce night unaided administrative formation and aided deployed echelon formation.

Requirement. Perform unaided stream STO, parade formation, cross under, lead change, running rendezvous, and break up and rendezvous. Perform aided deployed echelon formation. Perform PAR as a wingman. Review don/doff procedures airborne and NVD environmental assessment. Review unaided STOL flap STO, 2 STOL flap FNSL, 2 RVL, and 2 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. NS-142.

Range Requirements. MOA, RSTD.

NS-144 1.3 1 TAV-8B A NS

Goal. Night System V/STOL consolidation.

Requirement. Perform night flight using NVD. Perform familiarization, TACAN approach and aided STOL flap STO, 2 STOL flap FNSL, 2 STOL flap VNSL, 2 RVL, and 2 press-ups.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. NS-143.

NS-145 1.3 2 TAV-8B A NS

Goal. Introduce NS formation.

Requirement. Perform night formation flight using NVD. Perform ground don/doff procedures. Perform aided stream STO. Demonstrate lighting packages and perform formations including parade, deployed echelon, running rendezvous, break-up and rendezvous. Perform PAR as a wingman to low approach. Review aided V/STOL (if airfield conditions and local regulations permit) to include STOL flap STO, 2 STOL flap FNSL, and 2 RVL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. NS-144.

Range Requirements. MOA, RSTD.

18. Night Familiarization

a. Purpose. Review night unaided procedures, takeoffs, and landings.

b. General. A FRS LSI shall supervise all landings.

c. Ground/Academic Training. None.

d. Flight and Simulator Event Training. (1 Event, 1.3 Hours).

NFAM-146	1.3	1 AV-8B A N*

Goal. Practice night unaided procedures and V/STOL.

Requirement. Perform night unaided STOL flap STO, VTO-accel, 2 STOL flap FNSL, 2 STOL flap VNSL, 1 RVL, touch-and-go, roll-and-go, 1 decel-VL, and 1 press up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. NS-145.

19. NATOPS/Core Skill Introduction Evaluation

a. Purpose. Conduct Core Skill Introduction NATOPS evaluation.

b. General

(1) PUI shall complete all Core Skill Introduction stages prior to NATOPS/Core Skill Introduction Evaluation.

(2) A designated AV-8B NATOPS check pilot will observe and certify that the PUI is NATOPS qualified per AV-8B NATOPS Manual, Chapter 10.

c. Ground/Academic Training.

(1) Readings. Review AV-8B NATOPS Manual (A1-AV8BB-NFM-000)

(2) Lectures. None.

(3) Chalk Talks/Practical Application. None.

(4) Exams

(a) Open book AV-8B NATOPS exam

(b) Closed book AV-8B NATOPS exam

(c) Ground Evaluation IAW AV-8B NATOPS manual

d. Flight and Simulator Event Training. (1 Event, 1.5 Hours).

SNATOPS-195 1.5 RNWST S

Goal. Evaluate knowledge of aircraft systems, normal and emergency procedures.

Requirement. PUI will conduct flight brief. Perform local navigation route to a VFR recovery at home field. Perform all takeoffs and landings. Instructor will select emergencies.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. NATOPS Ground/Academic training.

132. REFRESHER SYLLABUS

1. Refresher Training

a. Purpose. Refresh pilots in the AV-8B Harrier II+.

b. General

(1) Satisfactory performance metrics for Refresher Syllabus events are determined and maintained by VMAT-203. These performance standards are based on applicable publications (e.g. AV-8B NATOPS Manual, OPNAVINST 3710, etc.), but are tailored to fit adequate pilot performance that is commensurate with an acceptable level of progression. Additional performance standards are specified, when applicable, for each stage of training.

(2) All training shall be conducted IAW applicable portions of OPNAVINST 3710 and NAVMC DIR 3500.14, Aviation Training and Readiness Program Manual.

2. Familiarization

a. Purpose. Review systems management, normal and emergency procedures.

b. General

(1) An early stage FAM instructor is required for events up to, and including, RFAM-158. A late stage FAM instructor is required for events after RFAM-158.

(2) An FRS LSI shall supervise all solos.

c. Ground/Academic Training. Conduct a self-paced review of the FAM stage Ground/Academic training syllabus.

d. Flight and Simulator Event Training. (14 Events, 19.8 Hours).

RSFAM-150 1.5 M,R SS RNWST S

Goal. Practice cockpit, takeoff, in-flight, and landing checklists; normal and emergency procedures.

Requirement. Review CTO, STOL flap STO, TACAN approach, 1 STOL flap FNSL, 1 auto flap VNSL, 1 STOL flap VNSL, 2 RVL, 1 CL, continuous VTO-accel, 1 decel-VL, and 1 press-up. Review instructor selected emergency procedures.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. Complete FAM stage Ground/Academic training.

RSFAM-151 1.5 M,R SS RNWST S

Goal. Review cockpit, takeoff, in-flight, and landing checklists; normal and emergency procedures.

Requirement. Review CTO, 1 STOL flap STO, TACAN approach, GCA approach, 1 STOL flap FNSL, 1 auto flap VNSL, 1 STOL flap VNSL, 2 RVL, 1 CL, continuous VTO-accel, 1 decel-VL, and 1 press-up. Review instructor selected emergency procedures.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. RSFAM-150.

RSFAM-152 1.5 M,R SS RNWST S

Goal. Review cockpit, takeoff, in-flight, and landing checklists; normal and emergency procedures.

Requirement. Review STOL flap STO, TACAN approach, PAR, 1 STOL flap FNSL, 1 auto flap VNSL, 1 STOL flap VNSL, 2 RVL, 1 CL, 1 non-continuous VTO-accel, 1 decel-VL, 1 cruise flap decel-VL, and 1 press-up. Review instructor selected emergency procedures.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. RSFAM-151.

RSFAM-153 1.5 M,R SS RNWST S

Goal. Review normal and emergency procedures.

Requirement. Review STOL flap STO, TACAN approach, PAR, 1 STOL flap FNSL, 1 auto flap VNSL, 1 STOL flap VNSL, 2 RVL, 1 CL, 1 continuous VTO-accel, 1 crosswind decel-VL, 1 braking-stop decel-VL, and 1 press-up. Review instructor selected emergency procedures.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. RSFAM-152.

RSFAM-154 1.5 M,R SS RNWST S

Goal. Review normal and emergency procedures.

Requirement. Review STOL flap STO, PAR, 1 STOL flap FNSL, 1 auto flap VNSL, 1 STOL flap VNSL, 2 RVL, 1 CL, 1 non-continuous VTO-accel, 1 decel-VL, 1 SAAHS-off decel-VL, and 1 press-up. Review instructor selected emergency procedures.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. RSFAM-153.

RSFAM-155 1.5 M,R SS RNWST S

Goal. Practice compound emergency procedures. Review normal procedures.

Requirement. Review instructor selected compound emergencies. Review CTO, PAR, 1 STOL flap STO, 1 STOL flap FNSL, 1 CL, 1 auto flap VNSL, 1 STOL flap VNSL, 1 RVL, 1 continuous VTO-accel, 1 decel-VL, and 1 press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. RSFAM-154.

RFAM-156 1.3 M,R SS 1 TAV-8B A

Goal. Review normal procedures.

Requirement. Review CTO, TACAN approach, STOL flap STO, 1 STOL flap FNSL, 1 CL, 1 auto flap VNSL, 1 STOL flap VNSL, 1 RVL, VTO-accel, 1 decel-VL, and 1 press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. RSFAM-155.

RFAM-157 1.3 M,R SS 1 TAV-8B A

Goal. Review normal procedures.

Requirement. Review STOL flap STO, PAR, 1 STOL flap FNSL, 1 CL, 1 auto flap VNSL, 1 STOL flap VNSL, 1 RVL, VTO-accel, 1 decel-VL, and 1 press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. RFAM-156.

RFAM-158 1.3 M,R 1 TAV-8B A

Goal. Review normal procedures.

Requirement. Review STOL flap STO, PAR, 1 STOL flap FNSL, 1 CL, 1 auto flap VNSL, 1 STOL flap VNSL, 1 RVL, VTO-accel, 1 decel-VL, and 1 press-up.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. RFAM-157.

RSFAM-159 1.5 M,R RNWST S

Goal. Review instrument flight planning and procedures.

Requirement. Review airways navigation on a round-robin flight. Review instrument flight planning, instrument flight procedures, instrument climb profile, intermediate level-off procedures, maximum range cruise profile, partial panel, unusual attitudes, holding procedures, IFR penetration procedures, TACAN approach, missed approach procedures, and PAR.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS and OPNAVINST 3710.

Prerequisite. RFAM-158.

RFAM-160 1.3 R 1 TAV-8B A

Goal. Review instrument flight planning and procedures.

Requirement. Review airways navigation, partial panel, and minimum fuel PAR. Review instrument flight planning, instrument climb profile, intermediate level-off procedures, maximum range cruise profile, holding procedures, IFR penetration procedures, TACAN approach, and missed approach procedures. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS and OPNAVINST 3710.

Prerequisite. RSFAM-159.

RSFAM-161 1.5 M,R RNWST/WST S

Goal. In-type instrument check.

Requirement. Perform a simulated IMC flight to include a non-precision approach to an unfamiliar field followed by a precision approach to that field or the home field. Perform unusual attitude recoveries.

Performance Standards
Execute all procedures IAW AV-8B NATOPS and OPNAVINST 3710.

Prerequisite. RFAM-160 (R), 159 (M).

RFAM-162 1.3 M,R SS 1 TAV-8B A

Goal. Safe for solo check.

Requirement. Review CTO, STOL flap STO, 1 STOL flap FNSL, 1 CL, 1 auto flap VNSL, 1 STOL flap VNSL, roll-and-go landing, 1 RVL, VTO-accel, 1 decel-VL, and 1 press-up.

Performance Standards
Execute all procedures IAW AV-8B NATOPS.

Prerequisite. RSFAM-161 (M, R), 157 (SS).

RFAM-163 1.3 M,R SS 1 AV-8B A

Goal. Solo Flight.

Requirement. Review CTO, GCA, STOL flap STO, 1 STOL flap FNSL, 1 CL, 1 auto flap VNSL, 1 STOL flap VNSL, roll-and-go landing, 1 RVL, VTO-accel, 1 decel-VL, and 1 press-up.

Performance Standards
Execute all procedures IAW AV-8B NATOPS.

Prerequisite. RFAM-162.

3. Formation

a. Purpose. Review section administrative and tactical formations.

b. General. A basic instructor pilot shall instruct all events.

c. Ground/Academic Training. Conduct a self-paced review of the FORM stage Ground/Academic training syllabus.

d. Flight and Simulator Event Training. (1 Event, 1.1 Hours).

RFORM-165 1.1 M,R 2 AV-8B A

Goal. Review section administrative and tactical formations.

Requirement. At medium altitude, review fighter wing, offensive and defensive combat spread formation, parade position, cross under, lead change, breakup and rendezvous, check turns, NAV turns, TAC turns, cross turns, hook turns, and shackle turns. Review 1 VNSL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS.

Prerequisite. Complete FORM stage Ground/Academic training. RFAM-163.

Range Requirements. MOA, RSTD.

4. Navigation

a. Purpose. Review the requisite skills integrating aircraft navigation systems to plan and execute navigation flight using aeronautical charts and visual checkpoints.

b. General. A basic instructor pilot shall instruct all events.

c. Ground/Academic Training. Conduct a self-paced review of the NAV stage Ground/Academic training syllabus.

d. Flight and Simulator Event Training. (1 Event, 1.5 Hours).

RSNAV-170 1.5 M,R RNWST S

Goal. Practice navigation at low altitude.

Requirement. Review navigation at low altitude on a MTR. Navigate to start point. Review navigation at low level using systems, visual navigation techniques, chart interpretation, and visual checkpoint identification.

Performance Standards
Satisfactory execute all procedures IAW AV-8B NATOPS.
Over fly the final point within +/- 20 seconds of planned timing and within +/- 500 pounds of planned fuel.

Prerequisite. Complete NAV stage Ground/Academic training, RFAM-163.

5. Threat Counter Tactics (TCT)

a. Purpose. Review the AV-8B EW suite, surface-to-are threat countertactics and ALSA Communication Brevity.

b. General. A WTO shall instruct all events.

c. Ground/Academic Training. Conduct a self-paced review of the TCT stage Ground/Academic training syllabus.

d. Flight and Simulator Event Training. (1 Event, 1.5 Hours).

RSTCT-175 1.5 R RNWST S

Goal. Review EW suite and surface-to-air threat countertactics at medium and low altitude.

Requirement. Review setup and employment of the ALE-39, ALR-67, and ALQ-164. Review ALSA communications, lean, notch, level-S, guns jink, and SAM weave at medium and low altitude. Review medium to low altitude deck transition. Review decision matrix for jettison criteria. Review pre-emptive and reactive expendable game plans.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and AV-8B TACSOP.

Prerequisite. Complete TCT stage Ground/Academic training, RSNAV-170.

6. Air-to-Surface (AS)

a. Purpose. Review BCWD skills, section tactical formation, and ALSA Communication Brevity.

b. General

(1) Scored ranges will be used to the maximum extent possible. If unavailable, performance criteria will be based IAW AV-8B TACSOP.

(2) A WTO shall instruct all events.

c. Ground/Academic Training. Conduct a self-paced review of the AS stage Ground/Academic training syllabus.

d. Flight and Simulator Event Training. (3 Events, 3.5 Hours).

RSAS-180 1.5 M,R WST S

Goal. Practice ARBS/TV and LST deliveries.

Requirement. Utilize WARP to generate weaponeering. Review weapon system programming. Review 4 45-degree, 4 30-degree, and 4 10-degree ARBS/TV and LST deliveries. Utilize the adaptive roll-in technique, target placement angle, and curvilinear to straight path tracking. Review off target maneuvers. Review the jettison system.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and AV-8B TACSOP.

Prerequisite. Complete AS stage Ground/Academic training, RSTCT-175 (R), RSNAV-170 (M).

Ordnance. 12 Mk-76.

RAS-181 1.0 M,R 1 TAV-8B/2 AV-8B A

Goal. Review computed weapons deliveries.

Requirement. Utilize WARP to weaponeering data. Perform weapon preflight and weapon system programming. Perform 6 30-degree or 45-degree BCIP/GCIP deliveries. Utilize the adaptive roll-in technique, target placement angle, and curvilinear to straight path tracking. Review off target maneuvers. Perform off target rendezvous. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and AV-8B TACSOP.

Prerequisite. RFORM-165, RSAS-180.

Ordnance. 6 Mk-76.

Range Requirements. RKD RNG.

RAS-182 1.0 M,R 2 AV-8B A

Goal. Practice ARBS/TV or AGR deliveries.

Requirement. Utilize WARP to generate weaponeering. Review 4 30-degree or 45-degree ARBS/TV or AGR deliveries. Utilize the J-hook maneuver and straight path to straight path or curvilinear to straight path tracking. Review adaptive roll in technique, off target maneuvers, and off target rendezvous. Review 2 10-degree ARBS/TV or AGR deliveries. Review 2 10-degree simulated GAU-12 deliveries. Utilize the safe escape table and maximum fragmentation envelope chart to ensure safe releases. Review 1 RVL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and AV-8B TACSOP.

Prerequisite. RAS-181.

Ordnance. 6 Mk-76.

Range Requirements. RKD RNG.

7. Target Area Tactics

a. Purpose. Review Target Area Tactics, section tactical formation, PGM employment, and ALSA Communication Brevity.

b. General

(a) Scored ranges will be used to the maximum extent possible. If unavailable, performance criteria will be IAW AV-8B TACSOP.

(b) A WTO shall instruct all events.

c. Ground/Academic Training. Conduct a self-paced review of the MECH stage Ground/Academic training syllabus.

d. Flight and Simulator Event Training. (4 Events, 5 Hours).

RSMECH-185 1.5 R RNWST/WST S

Goal. Review transition profiles.

Requirement. Perform 3 30-degree or 45-degree deliveries. Perform 2 PGM deliveries: 1 level entry to 45 or 30-degree delivery, 1 ramp entry to level delivery; and 1 ramp entry to 45 or 30-degree dive delivery. Utilize WARP to generate weaponeering data including reactive weaponeering.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and AV-8B TACSOP.

Prerequisite. Complete MECH stage Ground/Academic training, RAS-182.

Ordnance. 6 Mk-82 LD and 2 GBU-12.

RSMECH-186 1.5 R RNWST/WST S

Goal. Review low altitude transition profiles.

Requirement. Perform 4 transition profile attacks: 1 low altitude pop-up to 10-degree delivery; 1 cruise climb to 45 or 30-degree delivery; 1 loft, and 1 transition attack. Review WARP and reactive weaponeering.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and AV-8B TACSOP.

Prerequisite. RSMECH-185.

Ordnance. 6 Mk-82 HD/LD ITER.

RMECH-187 1.0 R 2 AV-8B A

Goal. Review section target area tactics at medium altitude.

Requirement. Perform 5 attacks to 30-degree or 45-degree delivery: 2 same side attacks, 2 swept attacks, and 1 split attack. Review 1 STOL flap FNSL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and AV-8B TACSOP.

Prerequisite. RSMECH-186.

Ordnance. TACTS POD, simulated 6 Mk-82 LD.

Range Requirements. NDBS.

External Syllabus Support. TACTS debrief facility.

RMECH-188 1.0 R 2 AV-8B A

Goal. Brief, lead, and debrief section target area tactics at medium altitude.

Requirement. PUI will conduct briefing and lead the flight. Perform 5 attacks to 30-degree or 45-degree delivery: 2 same side attacks, 2 swept attacks, and 1 split attack. PUI will conduct debrief. Review 1 CL and 1 decel-VL.

Performance Standards
Satisfactorily execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B and AV-8B TACSOP.

Prerequisite. RMECH-187.

Ordnance. TACTS POD, simulated 6 Mk-82 LD.

Range Requirements. NDBS.

External Syllabus Support. TACTS debrief facility.

8. Close Air Support (CAS)

a. Purpose. Review CAS at medium altitude.

b. General. A WTO shall instruct all events.

c. Ground/Academic Training. Conduct a self-paced review of the CAS stage Ground/Academic training syllabus.

d. Flight and Simulator Event Training. (1 Event, 1.5 Hours).

RSCAS-190 1.5 R RNWST S

Goal. Review CAS at medium altitude.

Requirement. Perform 4 CAS attacks at medium altitude: 3 with Type 1 and 1 with Type 2 terminal attack control. Review the 9-line CAS briefing form and an attack preparation checklist.

Performance Standards
Satisfactory execute all procedures IAW AV-8B NATOPS.

Prerequisite. Complete CAS stage Ground/Academic training, RSMECH-186.

Ordnance. Mk-82 LD.

9. NATOPS/Core Skill Introduction Evaluation

a. Purpose. Conduct Core Skill Introduction NATOPS evaluation.

b. General

(1) PUI shall complete requisite Refresher syllabus prior to NATOPS/Core Skill Introduction Evaluation.

(2) A designated AV-8B NATOPS check pilot will observe and certify that the PUI is NATOPS qualified per AV-8B NATOPS Manual, Chapter 10.

c. Ground/Academic Training

(1) Readings. Review AV-8B NATOPS Manual (A1-AV8BB-NFM-000)

(2) Lectures. None.

(3) Chalk Talks/Practical Application. None.

(4) Exams

(a) Open book AV-8B NATOPS exam

(b) Closed book AV-8B NATOPS exam

(c) Ground Evaluation IAW AV-8B NATOPS manual

d. Flight and Simulator Event Training. (1 Event, 1.5 Hours).

SNATOPS-195 1.5 E,M,R, SS RNWST S

Goal. Evaluate knowledge of aircraft systems, normal and emergency procedures.

Requirement. PUI will conduct flight brief. Perform local navigation route to a VFR recovery at home field. Perform all takeoffs and landings. Instructor will select emergencies.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, Air NTTP 3-22.1-AV8B, and AV-8B TACSOP.

Prerequisite. NATOPS Ground/Academic training.

133. CORE SKILL BASIC PHASE

1. Core Skill Basic Training

a. Purpose. This stage develops a wingman that is proficient in all fundamental skills required to employ the AV-8B. This stage focuses on air-to-surface and air-to-air skill development in:

(1) System management and sensor employment

(2) Weapon employment

(3) Threat countertactics

(4) Section and division tactical fundamentals

(5) Day and night conditions

b. General

(1) Initial POI events are tailored to a wingman's role.

(2) Passing grade on written examinations is 80%.

2. Familiarization

a. Purpose. Maintain proficiency in normal and emergency procedures; navigation, and instrument flight procedures. Introduce OFP differences.

b. General. Flight with NVD is authorized if current and proficient in the Night Systems core skill.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATOPS Manual (A1-AV8BB-NFM-000)

1. Review Chapter 2, Systems

2. Review Chapter 4, Operating Limitations

3. Review Chapter 7, Shore Base-Based Procedures

4. Review Chapter 12, General Emergencies

5. Review Chapter 13, Ground Emergencies

6. Review Chapter 14, Takeoff Emergencies

7. Review Chapter 15, In-flight Emergencies

8. Review Chapter 16, Landing Emergencies

9. Review Chapter 17, Emergency Egress

10. Review Chapter 18, Immediate Action Items

(b) Air NTTP 3-22.1-AV8B. Review Chapter 3, Flight Administrative Procedures

(c) AV-8B TACSOP. Review General Standards

(d) Review Wing and MAG Standard Operating Procedures

(e) Review applicable range regulations and course rules

(2) Lectures. None.

(3) Chalk Talks/Practical Application. None.

(4) Exams. None.

d. Flight and Simulator Event Training. (3 Events, 3.3 Hours).

SFAM-200 1.0 NWST/RNWST S (NS)

Goal. Introduce AV-8B OFP differences.

Requirement. Introduce cockpit functionality of new software and systems associated in fleet aircraft including ALE-39 programming and EW page displays. Introduce post start systems programming, HOTAS, and displays.

Performance Standards
Demonstrate familiarity with aircraft system set-up, HOTAS and MPCD menus associated with fleet aircraft OFP.

Prerequisite. Complete Ground/Academic training, (NS-255 if aided).

SFAM-201 1.0 R NWST/RNWST S (NS)

Goal. Review normal and emergency procedures.

Requirement. Review normal and emergency procedures and checklists. Review 1 CTO, 2 STO, 1 VTO, 1 FNSL, 1 VNSL, 1 CL, and 1 VL with 6 simulated emergencies. Review CRM associated with emergencies.

Performance Standards
Execute all normal and emergency procedures IAW AV-8B NATOPS.

Prerequisite. SFAM-200, (NS-255 if aided).

FAM-202 1.3 R 1+ AV-8B A (NS)

Goal. Review familiarization, navigation, and/or instrument flight.

Requirement. As directed, review normal and emergency procedures and checklist, instrument flight procedures and/or navigation procedures.

Performance Standards
Execute all normal and emergency procedures IAW AV-8B NATOPS, OPNAVINST 3710, and applicable FLIP publications.

Prerequisite. SFAM-201, (NS-255 if aided).

Range Requirement. RSTD.

3. Air-to-Air Refueling (AAR)

a. Purpose. Review day AAR qualification. Complete night AAR qualification.

b. General

(1) The requirements outlined in AAR-210 are for a Refresher POI AAR qualification.

(2) Initial AAR qualifications shall be conducted IAW the Air Refueling NATOPS Manual.

(3) AAR training may be executed in conjunction with ferry missions or as part of a tactical sortie provided all prerequisites are met.

(4) A Section Lead shall instruct all initial training events.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATOPS Manual (A1-AV8BB-NFM-000). Review Chapter 9, Paragraph 9.2, Air Refueling

(b) Review ATP-56(B)

(c) AV-8B TACSOP. Review Air-to-Air Refueling

(2) Lectures. Review AV-8B Courseware AAR lecture.

(3) Chalk Talks/Practical Application. None.

(4) Exams. None.

d. Flight and Simulator Event Training. (2 Events, 2.6 Hours).

AAR-210 1.3 R 1+ AV-8B A

Goal. Review day AAR.

Requirement. Perform all AAR procedures. Perform 1 tanker rendezvous and establish observation and pre-contact positions. Execute 6 successful engagements on refueling drogue with 1 engagement under simulated NORDO conditions with an emergency break-away. Perform tanker departure. This event will be flown in section or division for an initial or refresher POI.

Performance Standards
Execute all procedures IAW AV-8B and AAR NATOPS manuals.

Prerequisite. Complete Ground/Academic training, FAM-202.

Range Requirements. AAR.

External Syllabus Support. Compatible KC-130, strategic or tactical tanker.

AAR-211 1.3 R 1+ AV-8B A N

Goal. Introduce night AAR.

Requirement. Perform all AAR procedures at night. Perform 1 tanker rendezvous and establish observation and pre-contact positions. Execute 6 successful engagement on refueling drogue with 1 engagement under simulated NORDO conditions with an emergency break-away. Perform tanker departure. This event will be flown in section or division for an initial or refresher qualification.

Performance Standards
Execute all procedures IAW AV-8B and AAR NATOPS manuals.

Prerequisite. AAR-210, (NS-255 if aided).

Range Requirements. AAR.

External Syllabus Support. Compatible KC-130, strategic or tactical tanker.

4. Low Altitude Tactics

a. Purpose. Complete LAT Qualification.

b. General

(1) All training shall be conducted IAW NAVMC DIR 3500.14, Aviation Training and Readiness Manual LAT Rules of Conduct.

(2) All mission planning and flight briefs shall include BAM/BASH data and current route obstructions considerations.

(3) Completion of this stage constitutes LAT qualification.

(4) A LATI shall instruct all initial training events.

c. Ground/Academic Training

(1) Readings

(a) Air NTTP 3-22.1-AV8B

1. Review Chapter 4, Low Altitude Tactics

2. Review Chapter 24, Section 24.2, Surface-to-Air Threat Countertactics

(b) AV-8B TACSOP. Review Low Altitude Tactics

(c) NAVMC DIR 3500.14, Aviation Training and Readiness Program Manual. Review Chapter 4, LAT Rules of Conduct

(2) Lectures

(a) Review the following AV-8B Courseware lectures:

1. ALQ-164

2. ALE-39

3. ALR-67

(b) Receive the following MAWTS-1 Courseware lectures by a LATI:

1. TACAIR LAT Part 3

2. TACAIR LAT Part 4

(3) Chalk Talks/Practical Application. Surface-to-air threat countertactics game plans against range known and range unknown threat with a LATI.

(4) Exams. LAT exam.

d. Flight and Simulator Event Training. (4 Events, 4.0 Hours).

SLAT-220 1.0 NWST/RNWST S

Goal. Review basic and advanced LAT procedures.

Requirement. Perform basic and advanced LAT procedures on a LAT circuit in a mountainous database emphasizing TCT and MCT. Practice straight and level flight, 4 level turns, 2 ridgeline crossings, terrain masking, and climb-to-cope. Practice 1 transition to LAT, 2 vertical jinks, 2 SOJ, 2 TOJ, and 2 ROJ. Emphasize adherence to the 10-degree rule, 50-percent rule, and dive recovery rules. Practice efficient scan techniques that enable aerodynamic, vector, and altitude control.

Performance Standards
Maintain a minimum of 100-foot clearance of all obstructions.
Execute all LAT procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to LAT Rules of Conduct.
Communications IAW ALSA Communication Brevity.
Proficient cockpit management including TCT and MCT.

Prerequisite. Complete Ground/Academic training, FAM-202.

SLAT-221 1.0 R NWST/RNWST S

Goal. Review threat countertactics at low altitude.

Requirement. Review guns jink, level-S, break turns, SAM Weave (initiated from medium and low altitude) and MAC. Emphasize threat recognition, identification and assessment, decision points based on threat matrix, ALSA Communication Brevity, and reactions versus threat engagement timelines. Threat database shall include RF SAMS and RF AAA.

Performance Standards
Maintain a minimum of 100-foot clearance of all obstructions.
Execute all surface-to-air threat countertactics procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to LAT Rules of Conduct.
Communications IAW ALSA Communication Brevity.
Proficient cockpit management including TCT and MCT.

Prerequisite. SLAT-220.

Ordnance. 6 Mk-82 HD, ALQ-164, SEL 1.

LAT-222 1.0 2 AV-8B A

Goal. Review basic and advanced LAT procedures.

Requirement. Perform basic and advanced LAT procedures on a LAT circuit emphasizing TCT and MCT. Practice straight and level flight, 4 level turns, 2 ridgeline crossings, terrain masking, and climb-to-cope. Practice 1 transition to LAT, 2 vertical jinks, 2 SOJ, 2 TOJ, and 2 ROJ. Emphasize adherence to the 10-degree rule, 50-percent rule, and dive recovery rules. Practice efficient scan techniques that enable aerodynamic, vector, and altitude control.

Performance Standards
Maintain a minimum of 200-foot clearance of all obstructions.
Execute all LAT procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to LAT Rules of Conduct.
Communications IAW ALSA Communication Brevity.
Proficient cockpit management including TCT and MCT.

Prerequisite. SLAT-221.

Range Requirement. RSTD, LAT.

LAT-223 1.0 2 AV-8B A

Goal. Review threat countertactics at low altitude.

Requirement. Review guns jink, level-S, break turns, and SAM Weave (initiated from medium and low altitude). Emphasize threat recognition, identification and assessment, decision points based on threat matrix, ALSA Communication Brevity, and reactions versus threat engagement timelines. Threats shall include RF SAMS and RF AAA.

Performance Standards
Maintain a minimum of 200-foot clearance of all obstructions.
Execute all LAT and procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to surface-to-air threat countertactics gameplan.
Adhere to LAT Rules of Conduct.
Communications IAW ALSA Communication Brevity.
Proficient cockpit management including TCT and MCT.

Prerequisite. LAT-222.

Ordnance. TACTS Pod, ALQ-164, expendables.

Range Requirements. RSTD, LAT, TACTS, SST, EW.

5. Air-to-Surface

a. Purpose. Review surface-to-air threat countertactics. Introduce and review air-to-surface sensors and targeting; the employment of free fall,

forward firing, and precision guided munitions from the medium and low altitude regimes; and section and division target area tactics.

b. General. A Section Lead shall instruct all events.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATIP (NTRP 3.22-4)

1. Review Chapter 4, External Stores

2. Review Chapter 5, Air-to-Ground Weapon Delivery

(b) Air NTTP 3-22.1-AV8B

1. Review Chapter 6, Air-to-Surface Mission Planning Considerations

2. Review Chapter 7, Target Area Tactics

(c) AV-8B TACSOP. Review Air-to-Surface

(2) Lectures

(a) Review the following AV-8B Courseware lectures:

1. Height Above Target

2. GP Bombs

3. GP Bomb Fuzing

4. 25 mm Gun

5. Rockets

6. Forward-Firing Ordnance and Weaponeering

7. Laser Guided Bombs and Laser Guided Training Rounds

8. Attack Profiles

9. Standard Target Area Tactics

10. Air-to-Surface (A/S) Planning & Timeline Management

(b) Receive the following AV-8B Courseware lectures from a WTO:

1. Cluster Weapons and Fuzing

2. Joint Direct Attack Munition

3. LASER Maverick

4. Division Target Area Tactics

(3) Chalk Talks/Practical Application. With a WTO:

(a) Wingman contracts and responsibilities

(b) JMEMS Air-to-Surface Weaponeering System (JAWS) lab including Paveway Mission Planning Tool

(c) VX-31 Sensor Footprint lab

(4) Exams. None.

d. Flight and Simulator Event Training. (15 Events, 18.0 Hours).

SAS-230 1.0 R RNWST/NWST S (NS)

Goal. Review surface-to-air threat countertactics, transition maneuvers, and CCIP deliveries from medium altitude.

Requirement. Complete 3 medium altitude and 3 low altitude attacks with a surface-to-air threat. Perform pre-emptive and reactive threat countertactics: lean, notch, level-S, SAM weave, and deck transition against range known and range unknown threats.

Performance Standards
Execute IAW AIR NTTP 3-22.1-AV8B.
Demonstrate proper use of ALQ-164, ALR-67, and ALE-39.
Correct weaponeering utilizing JAWS, WARP, current flight clearances, and AV-8B NATIP.
Execute briefed air-to-surface timeline.
Comply with Tactical Abort Parameters.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Correct ALSA Communication Brevity.

Prerequisite. Complete Ground/Academic training, LAT-223.

Ordnance. TPOD, 2 Mk-82LD w/DSU-33, 1 Mk-83LD w/DSU-33, ALQ-164, and SEL 1.

SAS-231 1.0 RNWST S (NS)

Goal. Review AS sensors: TPOD and APG-65.

Requirement. Complete required TPOD ground checks. Conduct 8 TPOD and RADAR Expand Map sensor runs against varied target sets. Review TPOD and RADAR AS modes and HOTAS. Review RADAR Expand Map techniques.

Performance Standards
Demonstrate proper TPOD ground procedures.
Demonstrate proper TPOD management.
Demonstrate proper HOTAS for the TPOD.
Demonstrate proper HOTAS for RADAR AS modes.

Demonstrate knowledge of the source of the system designation.

Prerequisite. FAM-202.

Ordnance. TPOD.

SAS-232 1.0 R RNWST/NWST S (NS)

Goal. Review computed deliveries from medium and low altitude.

Requirement. Conduct 6 45-degree and 4 10-degree systems deliveries on a scored range. Review APG-65 air-to-surface modes or ARBS/TV weapons delivery procedures. Introduce LCIP/LAUT delivery modes.

Performance Standards
Execute IAW AV-8B TACSOP and Air NTTP 3-22.1-AV-8B.
Correct weaponeering utilizing JAWS, WARP, current flight clearances, and AV-8B NATIP.
Execute briefed air-to-surface timeline.
Comply with Tactical Abort Parameters.
Valid weapon release IAW AIR NTTP 3-22.1-AV8B.
Correct ALSA Communication Brevity.

Prerequisite. SAS-231.

Ordnance. TPOD, 6 Mk-82 H/L SEL on ITERS, and SEL 1.

SAS-233 1.0 R RNWST/NWST S (NS)

Goal. Introduce JDAM deliveries.

Requirement. Conduct level JDAM deliveries. Complete 1 pre-planned delivery, and 3 reactive deliveries with terminal parameters enabled using the TPOD to generate target coordinates.

Performance Standards
Execute IAW AV-8B TACSOP and Air NTTP 3-22.1-AV-8B.
Correct weaponeering utilizing JMPS CUPC, JAWS, current flight clearances, and AV-8B NATIP.
Execute briefed air-to-surface timeline.
Proper use of TPOD to generate target coordinates.
Comply with Tactical Abort Parameters.
Valid weapon release IAW AIR NTTP 3-22.1-AV8B.
Correct ALSA Communication Brevity.

Prerequisite. SAS-231.

Ordnance. TPOD, 2 GBU-38, 1 GBU-32, and SEL 1.

SAS-234 1.0 RNWST/NWST S (NS)

Goal. Introduce LMAV and LGB deliveries.

Requirement. Conduct 2 self-lase LGB deliveries and 1 LMAV buddy-lase delivery.

Performance Standards
Execute IAW AV-8B TACSOP and Air NTTP 3-22.1-AV-8B.
Correct weaponeering utilizing PMPT, JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Adhere to briefed air-to-surface timeline.
Proper use of TPOD to designate targets.
Comply with Tactical Abort Parameters.
Valid weapon release IAW AIR NTTP 3-22.1-AV8B.
Correct ALSA Communication Brevity.

Prerequisite. SAS-231.

Ordnance. TPOD, 1 GBU-12, 1 GBU-16, 1 LMAV, and SEL 1.

AS-235 1.3 R 2 AV-8B A (NS)

Goal. Review surface-to-air threat countertactics, transition maneuvers, and CCIP deliveries from medium altitude.

Requirement. Complete 2 medium altitude and 2 low altitude attacks with a surface-to-air threat. Perform pre-emptive and reactive threat countertactics: lean, notch, level-S, SAM weave, and deck transition against range known and range unknown threats.

Performance Standards
Execute IAW AIR NTTP 3-22.1-AV8B.
Demonstrate proper use of ALQ-164, ALR-67, ALE-39.
Correct weaponeering utilizing JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Adhere to briefed air-to-surface timeline.
Comply with Tactical Abort Parameters.
Valid weapon release IAW AIR NTTP 3-22.1-AV8B.
Correct ALSA Communication Brevity.

Prerequisite. SAS-230.

Ordnance. TPOD, free fall ordnance, ALQ-164, TACTS Pod, and expendables.

Range Requirements. TACTS, EW, RSTD, MOA, SST.

External Syllabus Support. TACTS debrief facility.

AS-236 1.3 2+ AV-8B A (NS)

Goal. Review AS sensors: TPOD and APG-65.

Requirement. Complete required TPOD ground checks. Conduct 6 TPOD and RADAR Expand Map sensor runs against varied target sets. Review TPOD and RADAR AS modes and HOTAS. Review RADAR Expand Map techniques.

Performance Standards
Demonstrate proper TPOD ground procedures.
Demonstrate proper TPOD management.
Demonstrate proper HOTAS for the TPOD.
Demonstrate proper HOTAS for RADAR AS modes.
Demonstrate knowledge of the source of the system designation.

Prerequisite. SAS-231.

Ordnance. TPOD, RADAR capable aircraft.

Range Requirements. RSTD, LSR, RDR TGT, IR TGT.

AS-237 1.3 2+ AV-8B A (NS)

Goal. Introduce TPOD scene interpretation, target identification and DMPI selection.

Requirement. Conduct multiple TPOD sensor runs against varied tactical target sets. Compare CCD TV and FLIR images. Introduce LGB air-to-surface timelines. Complete 1 LGTR self-lase delivery.

Performance Standards
Demonstrate proper use of the TPOD to designate targets.
Effectively identify and PID targets.
Execute briefed air-to-surface timeline.
Correct ALSA Communication Brevity.

Prerequisite. AS-236.

Ordnance. TPOD, 1 LGTR, and expendables.

Range Requirements. RSTD, LSR, IR TGT, RECCE ARRAY, EXP.

AS-238 1.3 R 2+ AV-8B A (NS)

Goal. Introduce LCIP/LAUT deliveries and review BCWD from medium and low altitude.

Requirement. On a scored range, execute 4 30-degree or 45-degree deliveries and 2 10-degree deliveries using TPOD as the source of the system designation.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Proper use of TPOD to designate targets.
Comply with Tactical Abort Parameters.
Comply with established contracts.
Valid weapon release IAW AIR NTTP 3-22.1-AV8B.
Weapon impacts within CEP for the weapon.
Correct ALSA Communication Brevity.

Prerequisite. SAS-232, AS-237.

Ordnance. TPOD, 6 MK-76, and expendables.

Range Requirements. RKD RNG, LSR, LT INERT, EXP.

AS-239 1.3 2+ AV-8B A (NS)

Goal. Review GAU-12 and rocket deliveries from medium and low altitude.

Requirement. On a scored range, perform 3 10-degree GAU-12 deliveries and 2 20-degree 5.00-inch rocket deliveries on a scored range. Review gun and rocket malfunctions.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Proper use of TPOD to designate targets.
Comply with Tactical Abort Parameters.
Comply with established contracts.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.

Prerequisite. SAS-232, AS-238.

Ordnance. TPOD, 300 rounds 25mm, 4x5” Rockets, and expendables.

Range Requirements. RKD RNG, LSR, STRAFE, HE, EXP.

AS-240 1.3 2 AV-8B A (NS)

Goal. Introduce pop-up attacks from low-altitude.

Requirement. Execute 4 pop-up attacks to 10-degree deliveries on a raked range. Review DMT/LST, AGR, or LCIP deliveries.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Proper use of TPOD to designate targets.
Comply with Tactical Abort Parameters.
Comply with established contracts.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.

Prerequisite. LAT-223, AS-239.

Ordnance. TPOD, 6 MK-76, and expendables.

Range Requirements. RKD RNG, LSR, STRAFE, LT INERT, EXP.

AS-241 1.3 2 AV-8B A (NS)

Goal. Review LMAV and LGB deliveries.

Requirement. On a scored range, execute 2 self-lase LGB deliveries and 1 LMAV buddy-lase delivery.

Performance Standards
Execute IAW AV-8B TACSOP and Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing PMPT, JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Execute briefed air-to-surface timeline.
Proper use of TPOD to designate targets.
Comply with Tactical Abort Parameters.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Correct ALSA Communication Brevity.

Prerequisite. SAS-234, AS-237.

Ordnance. TPOD, 2 LGBs or LGTRs, CATM-65E or AGM-65E, and expendables.

Range Requirements. RSTD, LGB, AS MISSILE, EXP, WISS or RKD RNG.

AS-242 1.3 2 AV-8B A (NS)

Goal. Introduce JDAM deliveries.

Requirement. Conduct level JDAM deliveries. Complete 1 pre-planned delivery, and 3 reactive deliveries (2 with simulated ordnance) with terminal parameters enabled using the TPOD to generate target coordinates.

Performance Standards
Execute IAW AV-8B TACSOP and Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing JMPS CUPC, JAWS, current flight clearances, and AV-8B NATIP.
Execute briefed air-to-surface timeline.
Proper use of TPOD to generate target coordinates.
Comply with Tactical Abort Parameters.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.

Prerequisite. SAS-233, AS-237.

Ordnance. TPOD, 2 GBU-32/38 and expendables.

Range Requirements. RSTD, JDAM, LSR, EXP, WISS or RKD RNG.

AS-243 1.3 R 2+ AV-8B A (NS)

Goal. Review visual target area tactics.

Requirement. Execute 4 medium altitude target attack using dive delivery profiles on a scored range.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Proper use of TPOD to designate targets.
Comply with Tactical Abort Parameters.
Execute briefed air-to-surface timeline.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.

Prerequisite. SAS-235, AS-239.

Ordnance. TPOD, 6 Mk-76, and expendables.

Range Requirements. RSTD, LSR, LT INERT, WISS or RKD RANGE, WISS.

AS-244 1.3 R 2+ AV-8B A (NS)

Goal. Review target area tactics using medium and high altitude standoff delivery profiles.

Requirement. Conduct 3 AGM-65E, LGB, or JDAM deliveries using standoff target area tactics.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Proper use of TPOD to designate targets.
Comply with Tactical Abort Parameters.
Execute briefed air-to-surface timeline.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Weapon impacts within CEP for the weapon.
Correct ALSA Communication Brevity.

Prerequisite. SAS-235, AS-241, AS-242.

Ordnance. TPOD, PGMs, and expendables.

Range Requirements. RSTD, JDAM, LGB, HE.

6. Night Systems (NS)

a. Purpose. Complete NSQ HI qualification.

b. General

(1) All training shall be conducted IAW NAVMC DIR 3500.14, Aviation Training and Readiness Manual NS Rules of Conduct.

(2) The first sortie, NS-252, shall be flown in High Light Level (HLL) conditions. At least 1 of the remaining 3 sorties, NS-253 through NS-235, shall be flown in Low Light Level (LLL) conditions.

(3) Completion of this stage constitutes NSQ HI qualification.

(4) An NSI shall instruct all initial training events.

c. Ground/Academic Training

(1) Readings

(a) AV-8B NATOPS Manual (A1-AV8BB-NFM-000). Review Chapter 15, In-flight Emergencies, Electrical Malfunctions

(b) AV-8B NATIP (NTRP 3.22-4). Review Section 2.6, Night Vision Goggles

(c) Air NTTP 3-22.1-AV8B. Review Chapter 5, Night Systems

(d) AV-8B TACSOP. Review Night Systems

(e) NAVMC DIR 3500.14, Aviation Training and Readiness Program Manual. Review Chapter 4, Night Systems Rules of Conduct

(2) Lectures

(a) Review the following AV-8B Courseware lecture: Infrared Theory

(b) Receive the following AV-8B Courseware lecture: LUU-2 Parachute Flares

(3) Chalk Talks/Practical Application

(a) Nite Lab

(b) Night Attack Profiles

(4) Exams. None.

d. Flight and Simulator Event Training. (6 Events, 7.2 Hours).

SNS-250 1.0 NWST/RNWST S NS

Goal. Introduce TPOD employment at night. Review NVD use, normal procedures and aircraft systems management at night.

Requirement. Review cockpit setup, TPOD FLIR calibration and setup and AV-8B NATOPS ground procedures at night. Inflight, focus on sensor management of the night attack suite and introduce TPOD FLIR. Recovery shall include a GCA, CL, VNSL, FNSL, RVL, and VL.

Performance Standards
Execute all procedures IAW AV-8B NATOPS and ANTTP 3-22.1-AV8B. Demonstrate proficient TPOD FLIR system setup and employment.

Prerequisite. Complete Ground/Academic Training , AS-244.

Ordnance. TPOD.

SNS-251 1.0 R NWST/RNWST S NS

Goal. Introduce NS tactical attack profiles.

Requirement. Perform 2 ramp down profiles to GP ordnance release and 1 PGM self-lase profile. Emphasize optimizing sensor/systems for target detection, acquisition and identification. Introduce target area tactics at night. Execute VFR NORDO recovery.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Proper use of TPOD to designate targets.
Comply with Tactical Abort Parameters.
Execute briefed air-to-surface timeline.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Correct ALSA Communication Brevity.

Prerequisite. SNS-250.

Ordnance. TPOD, 2 MK-82 LD w/DSU-33, 1 GBU-16, SEL 1.

NS-252 1.3 R 2 AV-8B A NS

Goal. Introduce TPOD employment at night. Review NVD use, normal procedures and aircraft systems management at night.

Requirement. Review cockpit setup, TPOD FLIR calibration and setup and AV-8B NATOPS ground procedures at night. In-flight, focus on sensor management of the night attack suite and introduce TPOD FLIR. Review all aircraft lighting configurations. Review all night formations. Execute 1 break-up and rendezvous. Recovery shall include a GCA, CL, VNSL, FNSL, RVL, and VL.

Performance Standards
Execute all procedures IAW AV-8B NATOPS and ANTTP 3-22.1-AV8B.
Demonstrate proficient TPOD FLIR system setup and employment.

Prerequisite. NS-251.

Ordnance. TPOD.

Range Requirements. RSTD, LSR.

NS-253 1.3 2 AV-8B A NS

Goal. Introduce PGM attack profiles at night.

Requirement. Execute 1 self lase, 1 buddy lase and 1 JDAM attack. Emphasize air-to-surface timelines, contract adherence, and sensor/system optimization for target detection, acquisition and identification.

Performance Standards
Execute IAW AV-8B TACSOP and Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing JMPS CUPC, JAWS, current flight clearances, and AV-8B NATIP.
Execute briefed air-to-surface timeline.
Proper use of TPOD to generate target coordinates.
Comply with Tactical Abort Parameters.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.

Prerequisite. SNS-252.

Ordnance. TPOD, 2 LGB/LGTR, 1 GBU-32/38, and expendables.

Range Requirements. RSTD, JDAM, LGB, EXP, WISS.

NS-254 1.3 2 AV-8B A NS

Goal. Introduce computed deliveries from medium and low altitude at night.

Requirement. Perform 3 30-degree and 3 10-degree LCIP/LAUT deliveries on a scored range. Emphasize air-to-surface timeline, sensor/system management and TPOD employment. Emphasize environmental effects and Mission Crosscheck Time.

Performance Standards
Execute IAW AV-8B TACSOP and Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing JMPS CUPC, JAWS, current flight clearances, and AV-8B NATIP.
Execute briefed air-to-surface timeline.
Proper use of TPOD to generate target coordinates.
Comply with Tactical Abort Parameters.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.

Prerequisite. NS-253.

Ordnance. TPOD, 6 Mk-76, 1 LGTR and expendables.

Range Requirements. RSTD, LGB, WISS or RKD, RNG, EXP.

NS-255 1.3 R 2 AV-8B A NS

Goal. Introduce section target area tactics at night.

Requirement. Complete 2 medium altitude transition profiles to free fall/forward firing weapon employment and 2 PGM attacks. Introduce aided target area tactics, mutual support and deconfliction. Emphasize sensor/systems optimization for target detection, acquisition and identification. Emphasize environmental effects and Mission Crosscheck Time.

Performance Standards
Execute IAW AV-8B TACSOP and Air NTTP 3-22.1-AV8B.

Correct weaponeering utilizing JMPS CUPC, JAWS, current flight clearances, and AV-8B NATIP.
Execute briefed air-to-surface timeline.
Proper use of TPOD to generate target coordinates.
Comply with Tactical Abort Parameters.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.

Prerequisite. NS-254.

Ordnance. TPOD, 2 LGTR, LGB, or JDAM, free fall ordnance, and expendables.

Range Requirements. RSTD, LGB or JDAM, WISS or RKD, RNG, EXP.

7. Air-to-Air (AA)

a. Purpose. Complete ACM qualification.

b. General

(1) All training shall be conducted IAW NAVMC DIR 3500.14, Aviation Training and Readiness Manual ACM Rules of Conduct.

(2) Completion of this stage constitutes ACM qualified.

(3) An AV-8B ACTI, USMC FA-18 ACTI, or VFMT-401 ATI shall instruct all initial training events. Adversaries may be similar or dissimilar provided instructor requirements are met.

c. Ground/Academic Training

(1) Readings

(a) Air NTTP 3-22.1-AV8B

1. Review Chapter 15, Air-to-Air Fundamentals

2. Review Chapter 16, Air-to-Air Planning Considerations

3. Review Chapter 17, Air-to-Air Employment Contracts

4. Review Chapter 18, Air-to-Air Tactics

(b) AV-8B TACSOP

1. Review Basic Fighter Maneuvering

2. Review Air Combat Maneuvering

(c) NAVMC DIR 3500.14, Aviation Training and Readiness Program Manual. Review Chapter 4, ACM Rules of Conduct

(d) TOPGUN Manual

1. Review Chapter 9, Rule-of-Thumb

2. Review Chapter 11, Threat Aircraft

3. Review Chapter 12, Threat RADAR Missiles

4. Review Chapter 13, Threat IR Missiles

5. Review Chapter 21, Combat Gunnery

6. Review Chapter 39, Intercept Control

(2) Lectures

(a) Review the following AV-8B Courseware lectures:

1. ACM Safety and A/A Systems

2. Aircraft Performance

3. Combat Gunnery

4. Combat Thrust Vector Control

(b) Receive the following AV-8B Courseware lectures:

1. 1v1 Basic Fighter Maneuvers

2. 2v1 Basic Fighter Maneuvers

3. Air Intercept Control

4. Combat Section Tactics

(3) Chalk Talks/Practical Application

(a) NSAWC AIM-9M-8 Interactive CD ROM

(b) Air-to-Air timelines

(4) Exams. None.

d. Flight and Simulator Event Training. (15 Events, 17.4 Hours).

SAA-260 1.0 R RNWST S

Goal. Review TVC procedures, break turns and air-to-air weapon set-up, HOTAS, ACM modes, and employment.

Requirement. Complete 1 high speed departure recovery, 1 slow speed departure recovery, 2 heat-to-guns drills, 2 turn rate drills, 2 break turns with a deck transition, 1 TVC assisted turn drill, 1 HSPO, 1 HSWO, and 1 Flop. Instruction shall include HOTAS specifics and scan techniques.

Performance Standards
Adhere to ACM training rules.
Departure recovery procedures IAW AV-8B NATOPS.

Execute drills and procedures IAW Air NTTP 3-22.1-AV8B and AV-8B TACSOP.
Recognize AIM-9M-8 and GAU-12 WEZ.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. Complete Ground/Academic Training, AS-244.

Ordnance. 2 AIM-9M-8 and SEL 5.

AA-261 1.3 2 AV-8B A

Goal. Review TVC procedures, break turns and air-to-air weapon set-up, HOTAS, ACM modes, and employment.

Requirement. Complete 1 zero airspeed departure recovery, 2 heat-to-guns drills, 2 turn rate drills, 2 break turns with a deck transition, 1 TVC assisted turn drill, 1 HSPO, 1 HSWO, and 1 Flop. Instruction shall include ACM training rules application, HOTAS specifics and scan techniques.

Performance Standards
Adhere to ACM training rules.
Departure recovery procedures IAW AV-8B NATOPS.
Execute drills and procedures IAW Air NTTP 3-22.1-AV8B and AV-8B TACSOP.
Recognize AIM-9M-8 and GAU-12 WEZ.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. SAA-260.

Ordnance. CATM-9M-8, TACTS, expendables.

Range Requirements. AA, TACTS, EXP.

AA-262 1.3 2 AV-8B A

Goal. Review 1 V 1 offensive BFM.

Requirement. Review 1 heat-to-guns drill, 1 snapshot drill, 1 9,000-foot, 1 6,000-foot and 1 3,000-foot offensive perch engagements. Instruction shall include ACM training rules application, energy management and assessment, turn circle recognition, WEZ recognition, and deck awareness.

Performance Standards
Adhere to ACM training rules.
Execute drills and procedures IAW Air NTTP 3-22.1-AV8B and AV-8B TACSOP.
Maintain offensive position or disengage prior to a defensive position.
Recognize AIM-9M-8 and GAU-12 WEZ.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. AA-261.

Ordnance. CATM-9M-8, TACTS pod, expendables.

Range Requirements. AA.

AA-263 1.3 2 AV-8B A

Goal. Review 1 V 1 defensive BFM.

Requirement. Review 1 rolling scissors drill, 1 horizontal scissors drill, 1 9,000-foot, 1 6,000-foot, and 1 3,000-foot defensive perch engagements. Instruction shall include ACM training rules application, energy management and assessment, deck awareness, and air-to-air threat countertactics within visual range.

Performance Standards
Adhere to ACM training rules.
Execute drills and procedures IAW Air NTTP 3-22.1-AV8B and AV-8B TACSOP.
Recognize adversary WEZ and execute appropriate countertactic.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. AA-262.

Ordnance. CATM-9M-8, TACTS, expendables.

Range Requirements. AA, TACTS, EXP.

AA-264 1.3 R 2 AV-8B A

Goal. Review 1 V 1 high aspect BFM against a Category II and Category IV adversary.

Requirement. Review 1 snapshot drill, 1 heat-to-guns drill and 3 neutral engagements against a similar or dissimilar adversary: 1 butterfly or abeam set-up and 2 FQMD set-ups. Adversary gameplan will be stipulated in the brief. Instruction shall include ACM training rules application, energy management and assessment, gameplans, pre-merge considerations, weapons employment, deck awareness, and air-to-air threat countertactics within visual range.

Performance Standards
Adhere to ACM training rules.
Execute gameplan IAW Air NTTP 3-22.1-AV8B.
Recognize adversary WEZ and execute appropriate countertactic.
Execute FQMD to defeat SAR-1 missile and follow-on IR-3 missile.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. BFM-263.

Ordnance. CATM-9M-8, TACTS, expendables.

Range Requirements. AA, TACTS, EXP.

SAA-265 1.0 RNWST S (NS)

Goal. Review AWI, GCI/AIC integration, AIM-9M-8 employment against a single, unaware, Category II adversary.

Requirement. Review 2 forward quarter and 2 rear quarter AWI against a non-maneuvering Category II adversary on a strike profile. Review GCI/AIC integration. Review 4 AIM-9M-8 engagements. Review ALQ-164 set-up and employment.

Performance Standards
Execute AWI procedures IAW Air NTTP 3-22.1-AV8B
Adhere to RADAR timeline, contracts and criteria.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. Complete Ground/Academic training, AS-244.

Ordnance. 4 AIM-9M-8, ALQ-164, and SEL 5.

SAA-266 1.0 MTT/RNWST S (NS)

Goal. Introduce single group presentations and high-fast flyer. Review AWI, GCI/AIC integration, and AIM-9M-8 employment.

Requirement. Perform 4 forward quarter AWI against a single group, unaware, Category II adversary on a strike profile. Adversary shall be at 35,000-feet for one engagement. Instruction shall include evaluating target Mach, altitude, closure, and aspect cues. Adversary group formations shall include azimuth, range, and echelon presentations. Review 4 AIM-9M-8 engagements. Review ALQ-164 set-up and employment.

Performance Standards
Execute AWI procedures IAW Air NTTP 3-22.1-AV8B
Adhere to air-to-air timeline, contracts and criteria.
Accurate adversary formation analysis and sort IAW brief.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. SAA-265.

Ordnance. 4 AIM-9M-8, ALQ-164, and SEL 5.

SAA-267 1.0 RNWST S (NS)

Goal. Introduce CAP procedures and VID tactics. Review AWI, GCI/AIC integration, AIM-9M-8 employment against a single group, unaware adversary.

Requirement. Perform 4 forward quarter AWI intercepts against a single group, unaware adversary requiring PHID via VID. Adversaries will include friendly and threat aircraft. Adversary shall be at 35,000-feet for one engagement. Instruction shall include evaluating target Mach, altitude, closure, and aspect cues. Adversary group formations shall

include azimuth, range, and echelon presentations. Adversaries shall be maneuvering. Review AIM-9M-8 employment and air-to-air threat countertactics, ALQ-164 set-up and employment.

Performance Standards
Execute AWI procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to air-to-air timeline, contracts and criteria.
Execute briefed air-to-air threat countertactics gameplan.
Accurate adversary formation analysis and sort IAW brief.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. SAA-266.

Ordnance. 4 AIM-9M-8-8, ALQ-164, and SEL 5.

SAA-268 1.0 MTT/RNWST S (NS)

Goal. Introduce short range RADAR mechanics. Review CAP procedures, AWI, GCI/AIC integration, AIM-9M-8 employment against a single group, aware, Category II adversary.

Requirement. Perform 3 forward quarter intercepts from a CAP against a pop-up single group, aware, IR-2 capable Category II adversary within 20nm. Perform 1 rear quarter engagement against a pop-up single group, aware, SAR-1 capable Category II adversary within 10nm. Instruction shall include low SA RADAR set mechanics, ACM modes, and recommit criteria. Review GCI/AIC integration. Review AIM-9M-8 employment and air-to-air threat countertactics.

Performance Standards
Execute AWI procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to air-to-air timeline, contracts and criteria.
Execute briefed air-to-air threat countertactics gameplan.
Accurate adversary formation analysis and sort IAW brief.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. SAA-267.

Ordnance. 4 AIM-9M-8, ALQ-164, and SEL 5.

SAA-269 1.0 MTT/RNWST S (NS)

Goal. Introduce section intercepts against a single group, unaware, SAR-1 capable, Category IV adversary.

Requirement. Perform 4 engagements against a single sortable group, unaware, SAR-1 capable, Category IV adversary requiring PHID. Adversary group formations shall include azimuth, range, and echelon presentations; and shall ingress from 1,000 to 40,000 feet. Instruction shall include air-to-air timeline, contracts, criteria and air-to-air threat countertactics beyond visual range. Review AIM-9M-8 employment and FQMD.

Performance Standards
Execute intercept procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to air-to-air timeline, contracts and criteria.
Execute briefed air-to-air threat countertactics gameplan.
Accurate adversary formation analysis and sort IAW brief.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. SAA-268.

Ordnance. 4 AIM-9M-8, ALQ-164, and SEL 5.

SAA-270 1.0 MTT/RNWST S (NS)

Goal. Introduce section intercepts against a single group, aware, SAR-1 capable, Category IV adversary.

Requirement. Perform 4 intercept against a single sortable group, aware, SAR-1 capable, Category IV adversary requiring PHID. Adversary group formations shall include azimuth, range, and echelon presentations; and shall ingress from 1,000 to 40,000 feet. Instruction shall include air-to-air timeline, contracts, criteria, RWR awareness and air-to-air threat countertactics beyond visual range. Review AIM-9M-8 employment and FQMD.

Performance Standards
Execute intercept procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to air-to-air timeline, contracts and criteria.
Execute briefed air-to-air threat countertactics gameplan.
Accurate adversary formation analysis and sort IAW brief.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. SAA-269.

Ordnance. 4 AIM-9M-8, ALQ-164, and SEL 5.

AA-271 1.3 R 2 AV-8B A

Goal. Introduce 2 V 1 Section Engaged Maneuvering.

Requirement. Perform 4 engagement: 2 forward quarter engagements (1 forward quarter and 1 abeam set-up) and 2 rear quarter engagements (1 inside IR-2 WEZ and 1 outside SAR-1 WEZ). Instruction shall include engaged and supporting fighter contracts, disengagement procedures, ACM training rules application, applicable ALSA communications, and air-to-air threat countertactics within visual range.

Performance Standards
Adhere to ACM training rules.
Executes briefed contracts and gameplans.
Execute briefed air-to-air threat countertactics gameplan.
100% valid shots.
Time-to-kill less than 90 seconds.
Correct ALSA Communication Brevity.

Prerequisite. AA-264, AA-270.

Ordnance. CATM-9M-8, TACTS pod, expendables.

Range Requirements. AA, EXP, TACTS.

External Syllabus Support. 1 adversary (dissimilar preferred).

AA-272 1.3 2 AV-8B A

Goal. Introduce 2 V 2 Section Engaged Maneuvering.

Requirement. From a tap-the-cap setup, perform 3 visual engagements against IR-2 capable Category II adversary: 1 forward quarter entry, 1 beam entry, and 1 rear quarter entry. PHID via VID is required for fighters and adversaries. Instruction shall include pre-merge and post-merge gameplans, engaged and supporting fighter contracts, ACM training rules application, applicable ALSA communications, and air-to-air threat countertactics within visual range.

Performance Standards
Adhere to ACM training rules.
Executes briefed contracts and gameplans.
Execute briefed air-to-air threat countertactics gameplan.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. AA-271.

Ordnance. CATM-9M-8, TACTS pod, and expendables.

Range Requirements. AA, EXP, TACTS.

External Syllabus Support. TACTS, 2 dissimilar adversaries.

AA-273 1.3 2 AV-8B A

Goal. Review 1 V 1 intercepts, GCI/AIC integration, and AIM-9M-8 employment against a single, Level 2, IR-2 capable Category II adversary.

Requirement. Perform 4 AWI intercepts against a single, Level 2, IR-2 capable Category II adversary simulating a strike profile. Adversary maneuvering is limited to no more than flanking aspect or 10,000 feet of altitude change with picture set at 15nm. Instruction shall include air-to-air timeline, intercept geometry, GCI/AIC integration, and ACM training rules application. Initial training shall be in a AV-8B II+.

Performance Standards
Execute AWI procedures IAW Air NTTP 3-22.1-AV8B
Adhere to air-to-air timeline, contracts and criteria.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. AA-272.

Ordnance. CATM-9M-8, ALQ-164, TACTS pod, and expendables.

Range Requirements. AA, EXP, TACTS.

External Syllabus Support. AIC/GCI, TACTS debrief facility.

AA-274 1.3 R 2 AV-8B A

Goal. Introduce section intercepts against a single sortable group, Level 1, SAR-1 capable, Category IV adversary.

Requirement. Perform 3 intercepts against a single sortable group, Level 1, SAR-1 capable, Category IV adversary requiring PHID. Adversary group formations shall include azimuth, range, and echelon presentations; and shall ingress from 1,000 to 40,000 feet. Instruction shall include air-to-air timeline, contracts, and criteria; RWR awareness and air-to-air threat countertactics beyond visual range. Review AIM-9M-8 employment, FQMD, and air-to-air threat countertactics within visual range. Initial training shall be in a AV-8B II+.

Performance Standards
Execute intercept procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to air-to-air timeline, contracts and criteria.
Execute briefed air-to-air threat countertactics gameplan.
Accurate adversary formation analysis and sort IAW brief.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. AA-273.

Ordnance. CATM-9M-8, ALQ-164, TACTS pod, and expendables.

Range Requirements. AA, EXP, TACTS.

External Syllabus Support. TACTS range, 2 SAR-1 capable adversaries (dissimilar preferred), and GCI.

134. CORE SKILL ADVANCED TRAINING

1. Core Skill Advanced Training

a. Purpose. Develop proficiency in OAS and AAW missions.

b. General. Initial POI events shall be tailored to a wingman’s role.

2. Close Air Support (CAS)

a. Purpose. Develop proficiency in CAS execution during day and night missions at medium altitude in a low to medium threat environment.

b. General. A Section Leader shall instruct all events.

c. Ground/Academic Training

(1) Readings

(a) Review Joint Publication 3-09.3, Joint Tactics, Techniques, and Procedures for Close Air Support

(b) AV-8B NATIP (NTRP 3-22.4). Review Section 2.10.3 The CAS Display

(c) Air NTTP 3-22.1-AV8B

1. Review Chapter 9, Close Air Support

2. Chapter 10, Urban Offensive Air Support Considerations

(d) AV-8B TACSOP. Review Close Air Support

(2) Lectures

(a) Receive the following AV-8B Courseware lecture: Automatic Target Handoff System (ATHS)/Digital CAS

(b) Review the following AV-8B Courseware lecture: CAS Execution

(3) Chalk Talks/Practical Application. None.

(4) Exams. None.

d. Flight and Simulator Event Training. (8 Events, 9.5 Hours).

SCAS-300 1.0 R WST/NWST/RNWST S (NS)

Goal. Review CAS execution under Type 1 terminal attack control.

Requirement. Execute 4 attacks under Type 1 terminal attack control. Emphasize systems management, target PID, target area tactics, reactive weaponeering, threat countertactics and standardized communications.

Performance Standards
Execute IAW with JPub 3-09.3.
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Correct ALSA Communication Brevity.
TOT +/- 15 seconds.

Prerequisite. Complete Ground/Academic training, NS-255.

Ordnance. TPOD, 1 GBU-12, 2 Mk-82 LD w/DSU-33, 300 25mm SAPHEI-T, and SEL 1.

SCAS-301 1.0 WST/NWST/RNWST S (NS)

Goal. Review CAS execution under Type 2 and 3 terminal attack control.

Requirement. Execute 3 attacks under Type 2 terminal attack control and 1 attack under Type 3 terminal attack control. Emphasize systems management, target PID, target coordinate generation accuracy, PGM employment, threat countertactics, and standardized communications. Conduct a minimum of 1 attack with an active RF SAM threat.

Performance Standards
Execute IAW with JPub 3-09.3.
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Correct ALSA Communication Brevity.
TOT +/- 15 seconds.

Prerequisite. SCAS-300.

Ordnance. TPOD, 1 GBU-12, 2 GBU-38, ALQ-164, and SEL 1.

SCAS-302 1.0 NWST/RNWST S (NS)

Goal. Introduce digital CAS.

Requirement. Conduct 3 CAS attacks using digital communications (ATHS) under Type 1, 2, or 3 terminal attack control. Emphasize systems management, target PID, target coordinate generation accuracy, PGM employment, threat countertactics, and standardized communications.

Performance Standards
Execute IAW with JPub 3-09.3.
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Correct ALSA Communication Brevity.
TOT +/- 15 seconds.

Prerequisite. SCAS-301.

Ordnance. TPOD, 2 GBU-12, 1 AGM-65E, 300 25mm SAPHEI-T and SEL 1.

CAS-303 1.3 R 2 AV-8B A

Goal. Review day CAS execution under Type 1 terminal attack control.

Requirement. Conduct 2 attacks under Type 1 terminal attack control. Emphasize systems management, target PID, target area tactics, reactive weaponeering, threat countertactics and standardized communications.

Performance Standards
Execute IAW with JPub 3-09.3.
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.
TOT +/- 15 seconds.

Prerequisite. SCAS-302.

Ordnance. TPOD, free fall ordnance or PGM, and expendables.

Range Requirements. RSTD, JCAS, EXP, WISS.

External Syllabus Support. JTAC.

CAS-304 1.3 2 AV-8B A

Goal. Review day CAS execution under Type 2 and 3 terminal attack control.

Requirement. Conduct 1 attack under Type 2 terminal attack control and 1 attack under Type 3 terminal attack control. Emphasize systems management, target PID, target coordinate generation accuracy, PGM employment, threat countertactics and standardized communications.

Performance Standards
Execute IAW with JPub 3-09.3.
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.
TOT +/- 15 seconds.

Prerequisite. SCAS-302.

Ordnance. TPOD, PGMs and expendables.

Range Requirements. LSR, inert, HE, and JDAM.

External Syllabus Support. JTAC.

CAS-305 1.3 R 2 AV-8B A NS

Goal. Review night CAS execution under Type 1 terminal attack control.

Requirement. Conduct 2 attacks under Type 1 terminal attack control. Emphasize systems management, target PID, target area tactics, IR marker employment, reactive weaponeering, and standardized communications.

Performance Standards
Execute IAW with JPub 3-09.3.
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.
TOT +/- 15 seconds.

Prerequisite. CAS-303.

Ordnance. TPOD, Free fall ordnance or PGMs, and expendables.

Range Requirements. RSTD, JCAS, EXP, WISS.

External Syllabus Support. JTAC.

CAS-306 1.3 R 2 AV-8B A NS

Goal. Review night CAS execution under Type 2 and 3 terminal attack control.

Requirement. Conduct 1 attack under Type 2 terminal attack control and 1 attack under Type 3 terminal attack control. Emphasize systems management, target PID, target coordinate generation accuracy, PGM employment, IR marker employment and standardized communications.

Performance Standards
Execute IAW with JPub 3-09.3.
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.
TOT +/- 15 seconds.

Prerequisite. CAS-304.

Ordnance. TPOD, PGMs and expendables.

Range Requirements. RSTD, JCAS, EXP, WISS.

External Syllabus Support. JTAC.

CAS-307 1.3 2 AV-8B A (NS)

Goal. Introduce urban CAS execution.

Requirement. Conduct 2 CAS attacks in an urban environment. Emphasize systems management, target PID, target coordinate generation accuracy and weapons employment. This sortie can be completed using an actual urban area with simulated ordnance or a simulated urban complex using live or inert ordnance.

Performance Standards
Execute IAW with JPub 3-09.3.
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.
TOT +/- 15 seconds.

Prerequisite. SCAS-302.

Ordnance. TPOD, PGMs and expendables.

Range Requirements. URBN WPNS, WISS, JCAS.

External Syllabus Support. JTAC.

4. Armed Reconnaissance (AR)

a. Purpose. Develop proficiency in AR execution during day and night missions at medium altitude in a low to medium threat environment.

b. General. A Section Leader shall instruct all events.

c. Ground/Academic Training

(1) Readings

(a) Air NTTP 3-22.1-AV8B. Chapter 8, Sections 8.1 – 8.6, 8.8

(b) AV-8B TACSOP. Armed Reconnaissance

(2) Lectures. Receive the following AV-8B Courseware lectures:

(a) Armed Reconnaissance

(b) Armed Reconnaissance Procedures

(3) Chalk Talks/Practical Application. None.

(4) Exams. None.

d. Flight and Simulator Event Training. (4 Events, 4.9 Hours).

SAR-310 1.0 WST/NWST/RNWST S

Goal. Conduct day medium altitude AR.

Requirement. Brief a Reactive Attack Guidance Matrix (RAGM) and Rules of Engagement (ROE). Detect, recognize and PID targets according to ROE. Execute 2 attacks using free fall or forward firing ordnance and 1 attack with JDAM. Review direct, delayed, and transition attack profiles. Communicate MISREP to a simulated MACCS.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline and RAGM.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Communicate an accurate MISREP to the MACCS.
Correct ALSA Communication Brevity.

Prerequisite. Complete Ground/Academic training, NS-255.

Ordnance. TPOD, 1 GBU-32/38, 2 CBU-99/100 w/FMU-140, 300 25mm SAPHEI-T, and SEL 1.

AR-311 1.3 2+ AV-8B A (NS)

Goal. Conduct medium altitude AR with GP munitions.

Requirement. Brief a RAGM and ROE. Detect, recognize and PID targets according to ROE. Execute 2 attacks using free fall or forward firing ordnance. Communicate MISREP to a simulated or actual MACCS.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline and RAGM.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Communicate an accurate MISREP to the MACCS.
Correct ALSA Communication Brevity.

Prerequisite. AR-310.

Ordnance. TPOD, Free fall ordnance and expendables.

Range Requirements. RSTD, LSR, COMPLEX, EXP.

AR-312 1.3 R 2+ AV-8B A

Goal. Conduct medium altitude AR with PGM.

Requirement. Brief a RAGM and ROE. Detect, recognize and PID targets according to ROE. Execute 2 attacks with PGM. Communicate MISREP to a simulated or actual MACCS.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline and RAGM.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Communicate an accurate MISREP to the MACCS.
Correct ALSA Communication Brevity.

Prerequisite. AR-311.

Ordnance. TPOD, PGMs and expendables.

Range Requirements. RSTD, LGB, JDAM, COMPLEX, EXP.

AR-313 1.3 R 2+ AV-8B A NS

Goal. Conduct night medium altitude AR with PGMs.

Requirement. Brief a RAGM and ROE. Detect, recognize and PID targets according to ROE. Execute 2 attacks with PGM. Communicate MISREP to a simulated or actual MACCS.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline and RAGM.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Communicate an accurate MISREP to the MACCS.
Correct ALSA Communication Brevity.

Prerequisite. AR-312.

Ordnance. TPOD, PGMs and expendables.

Range Requirements. RSTD, LGB, JDAM, COMPLEX, IR TGT, EXP.

5. Strike Coordination and Reconnaissance (SCAR)

a. Purpose. Develop proficiency in SCAR execution during day and night missions at medium altitude in a low to medium threat environment.

b. General. A Section Leader shall instruct all events.

c. Ground/Academic Training

(1) Readings

(a) Air NTTP 3-22.1-AV8B. Chapter 8, Section 8.9

(b) AV-8B TACSOP. Strike Coordination and Reconnaissance

(2) Lectures. Receive the following MAWTS-1 Common Courseware lecture: SCAR Tactics, Techniques and Procedures

(3) Chalk Talks/Practical Application. None.

(4) Exams. None.

d. Flight and Simulator Event Training. (2 Events, 2.6 Hours).

SCAR-320 1.3 2 AV-8B A

Goal. Conduct day SCAR.

Requirement. Brief a RAGM and ROE. Detect, recognize and PID targets according to ROE. Coordinate with a minimum of 1 external section to conduct a minimum of 2 target attacks. Provide a MISREP to the MACCS (actual or simulated). Perform a SCAR-to-SCAR handover (actual or simulated).

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline and RAGM.
Execute briefed surface-to-air threat countertactics.
Accurate target coordinate generation, communication, and marking.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Communicate an accurate MISREP/IFREP to strikers and MACCS.
Correct ALSA Communication Brevity.

Prerequisite. Complete Ground/Academic training, AR-313.

Ordnance. TPOD, PGMs or freefall ordnance, and expendables.

Range Requirements. RSTD, JDAM, LGB, EXP, COMPLEX.

External Syllabus Support. One section AR assets.

SCAR-321 1.3 R 2 AV-8B A NS

Goal. Conduct night SCAR.

Requirement. Brief a RAGM and ROE. Detect, recognize and PID targets according to ROE. Coordinate with a minimum of 1 external element to conduct a minimum of 2 target attacks. Provide a MISREP to the MACCS (actual or simulated). Perform a SCAR-to-SCAR handover (actual or simulated).

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline and RAGM.
Execute briefed surface-to-air threat countertactics.
Accurate target coordinate generation, communication, and marking.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.

Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Communicate an accurate MISREP/IFREP to strikers and MACCS.
Correct ALSA Communication Brevity.

Prerequisite. SCAR-320.

Ordnance. TPOD, PGMs or freefall ordnance, and expendables.

Range Requirements. RSTD, JDAM, LGB, EXP, COMPLEX.

External Syllabus Support. One section AR assets.

6. Anti-Air Warfare (AAW)

a. Purpose. Develop proficiency in AAW execution during day and night missions in a medium threat environment.

b. General. A Section Leader shall instruct all events.

c. Ground/Academic Training

(1) Readings

(a) Air NTTP 3-22.1-AV8B. Chapter 19, Defensive Counter-Air Planning and Employment

(b) AV-8B TACSOP. Anti-Air Warfare

(2) Lectures. None.

(3) Chalk Talks/Practical Application. None.

(4) Exams. None.

d. Flight and Simulator Event Training. (3 Events, 3.3 Hours).

SAAW-330 1.0 R RNWST S (NS)

Goal. Introduce two group presentations.

Requirement. From a CAP, perform 4 intercepts against two groups presentations of non-maneuvering, SAR-1 capable, Category IV adversary. Adversary presentations shall include azimuth and range presentations at different altitudes. Adversary groups shall be in section.

Performance Standards
Execute DCA procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to air-to-air timeline, contracts, and criteria.
Execute briefed air-to-air threat countertactics gameplan.
Accurate adversary formation analysis and sort IAW brief.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. Complete Ground/Academic Training, AA-274, (NS-255 if aided).

Ordnance. 4 AIM-9M-8, ALQ-164, and SEL-5.

SAAW-331 1.0 RNWST S (NS)

Goal. Decoy Tactics.

Requirement. From a CAP, perform 4 intercepts against two groups presentations of maneuvering, SAR-1 capable, Category IV adversary. Adversary presentations shall include azimuth and range presentations at different altitudes. Adversary groups shall be in section. Adversary maneuvers shall simulate Level 3 decoy tactics.

Performance Standards
Execute DCA procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to air-to-air timeline, contracts, and criteria.
Execute briefed air-to-air threat countertactics gameplan.
Accurate adversary formation analysis and sort IAW brief.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. SAA-330, (NS-255 if aided).

Ordnance. 4 AIM-9M-8, ALQ-164, and SEL-5.

AAW-332 1.3 R 2+ AV-8BII+ A (NS)

Goal. 2vX DCA (Point defense).

Requirement. Perform a point defense. Emphasize ROE, ALSA communications, threat countertactics, and mutual support. Complete 3 engagements: 1 aware IR-2 capable striker, 1 unaware SAR-1 capable striker, 1 aware SAR-1 capable OCA fighter.

Performance Standards
Adhere to ACM training rules.
Delay, deny, destroy threat aircraft IAW ROE for a 30-minute VUL.
Adhere to air-to-air timeline, contracts, and criteria.
Execute briefed air-to-air threat countertactics gameplan.
Accurate adversary formation analysis and sort IAW brief.
100% valid shots.
Correct ALSA Communication Brevity.

Prerequisite. SAAW-331, (NS-255 if aided).

Range Requirements. AA, TACTS, EXP.

Ordnance. CATM-9M-8, TACTS, and expendables.

External Syllabus Support. TACTS range, RADAR equipped adversary and GCI/AIC.

7. Air Interdiction (AI)

a. Purpose. Develop proficiency in AI execution during day and night missions at medium altitude in a medium surface-to-air and air-to-air threat environment.

b. General. A Section Leader shall instruct all events.

c. Ground/Academic Training

(1) Readings

(a) Air NTTP-3-22.1-AV8B

1. Chapter 8, Section 8.7, Air Interdiction

2. Chapter 11, Suppression of Enemy Air Defenses

(b) AV-8B TACSOP. Air Interdiction

(2) Lectures. Receive the following AV-8B Courseware lecture: AI Planning and Execution.

(3) Chalk Talks/Practical Application. None.

(4) Exams. None.

d. Flight and Simulator Event Training. (4 Events, 4.9 Hours).

SAI-350 1.0 NWST/RNWST S (NS)

Goal. Introduce medium altitude AI.

Requirement. Perform a medium altitude AI with a surface-to-air and air-to-air threat.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Weapon impact within +/- 15 seconds of TOT.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Communicate an accurate MISREP to the MACCS.
Correct ALSA Communication Brevity.

Prerequisite. Complete Ground/Academic training, 200-level complete.

Ordnance. 2 300-gallon fuel tanks, 2 GBU-32, 2 AIM-9M-8, ALQ-164, SEL 2.

AI-351 1.3 R 2+ AV-8B A

Goal. Introduce day medium altitude AI.

Requirement. Conduct a medium altitude AI as a section or division with a surface-to-air threat.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Weapon impact within +/- 15 seconds of TOT.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Communicate an accurate MISREP to the MACCS.
Correct ALSA Communication Brevity.

Prerequisite. SAI-350.

Ordnance. ALQ-164, 2 GBU-32/38, and expendables.

Range Requirements. RSTD, EW, WISS, JDAM, EXP, COMPLEX.

AI-352 1.3 2+ AV-8B A NS

Goal. Introduce night medium altitude AI.

Requirement. Conduct a medium altitude AI in a section or division with a surface-to-air threat.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Weapon impact within +/- 15 seconds of TOT.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Communicate an accurate MISREP to the MACCS.
Correct ALSA Communication Brevity.

Prerequisite. SAI-350.

Ordnance. ALQ-164, 2 GBU-32/38, and expendables.

Range Requirements. RSTD, EW, WISS, JDAM, EXP, COMPLEX.

AI-353 1.3 R 4 AV-8B A (NS)

Goal. Introduce medium altitude AI with an air-to-air threat.

Requirement. Conduct a medium altitude AI in a division with a surface-to-air and air-to-air threat.

Performance Standards
Adhere to ACM training rules.
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Weapon impact within +/- 15 seconds of TOT.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Communicate an accurate MISREP to the MACCS.

Correct ALSA Communication Brevity.

Prerequisite. SAI-352.

Ordnance. ALQ-164, 2 GBU-32/38, 2 CAIM-9M-8, and expendables.

Range Requirements. RSTD, EW, WISS, JDAM, EXP, COMPLEX.

External Syllabus Support. AIC/GCI, RADAR equipped adversary.

135. CORE PLUS PHASE

1. Core Plus Training

a. Purpose. Train for large scale integrated missions having unique mission tasking and introduce skills or missions having a lower probability of execution.

b. General. Instructor supervision requirements are stipulated specifically for each stage.

2. Day Field Carrier Landing Practice

a. Purpose. Review FCLP(D) qualification.

b. General

(1) A LSO shall instruct all events IAW V/STOL LSO NATOPS.

(2) All events shall be conducted at a simulated L-class ship equipped with an optical landing system.

(3) Prerequisites shall be IAW V/STOL LSO NATOPS.

(4) Completion of this stage constitutes FCLP(D) qualification.

c. Ground/Academic Training

(1) Readings

(a) Review VSTOL Shipboard and LSO NATOPS Manual (NAVAIR 00-80T-111)

(b) Review LHA/LHD/MCS NATOPS Manual (NAVAIR 00-80T-106)

(2) Lectures. Receive the following AV-8B Courseware lectures:

(a) V/STOL LSO NATOPS, Part 1

(b) V/STOL LSO NATOPS, Part 2

(c) LHA/LHD/MCS NATOPS

(3) Chalk Talks/Practical Application. None.

(4) Exams. None.

d. Flight and Simulator Event Training. (2 Events, 3.0 Hours).

SFCLP-400 1.0 R NWST/RNWST S

Goal. Review day FCLP.

Requirement. Review day FCLP normal and emergency procedures to a simulated L-class ship. Review Case 1 recoveries. Perform a minimum of 6 VL and 5 STO.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, V/STOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS.

Prerequisite. Complete Ground/Academic Training, FAM-202.

FCLP-401 2.0 R 1 AV-8B A

Goal. Review day FCLP.

Requirement. Review day FCLP normal and emergency procedures to a simulated L-class ship. Review Case 1 recoveries.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, V/STOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS.

Prerequisite. SFCLP-400.

External Syllabus Support. FCLP Facility.

3. Night Field Carrier Landing Practice

a. Purpose. Complete FCLP(N) qualification.

b. General

(1) A LSO shall instruct all events IAW V/STOL LSO NATOPS.

(2) All events shall be conducted at a simulated L-class ship equipped with an optical landing system.

(3) Prerequisites shall be IAW V/STOL LSO NATOPS.

(4) For initial qualifications, 2 CCA approaches shall be completed during daylight conditions prior to commencing night training.

(5) Completion of this stage constitutes FCLP(N) qualification.

c. Ground/Academic Training

(1) Readings. None.

(2) Lectures. Receive the following AV-8B Courseware lectures:

(a) Night Carrier Qualification, Unaided

(b) Night Carrier Qualification, Aided

(3) Chalk Talks/Practical Application. None.

(4) Exams. None.

d. Flight and Simulator Event Training. (4 Events, 6.0 Hours).

SFCLP-402 1.0 R NWST/RNWST S N

Goal. Introduce FCLP at night (unaided).

Requirement. Perform night (unaided) FCLP normal and emergency procedures to a simulated L-class ship. Perform Case 2 and Case 3 recoveries. Perform CCA and AWLS approaches. Perform a minimum of 6 VL and 5 STO.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, V/STOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS.

Prerequisite. Complete Ground/Academic Training, SFCLP-400.

FCLP-403 2.0 R 1 AV-8B A N

Goal. Introduce FCLP at night (unaided).

Requirement. Perform night (unaided) FCLP normal and emergency procedures to a simulated L-class ship. Perform Case 2 and Case 3 recoveries.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, V/STOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS.

Prerequisite. FCLP 401, FCLP-402.

External Syllabus Support. FCLP Facility.

SFCLP-404 1.0 R NWST/RNWST S NS

Goal. Introduce FCLP at night (aided).

Requirement. Perform night (aided) FCLP normal and emergency procedures to a simulated L-class ship. Perform Case 1 recoveries. Perform a minimum of 6 VL and 5 STO.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, V/STOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS.

Prerequisite. SFCLP-402, NS-255.

FCLP-405 2.0 R 1 AV-8B A NS

Goal. Introduce FCLP at night (aided).

Requirement. Perform night (aided) FCLP normal and emergency procedures to a simulated L-class ship. Perform Case 1 recoveries. Perform a minimum of 6 VL and 5 STO.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, V/STOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS.

Prerequisite. SFCLP-401, SFCLP-404.

External Syllabus Support. NVD compatible FCLP Facility.

4. Day Carrier Qualification (CQ)

a. Purpose. Complete CQ(D) qualification.

b. General

(1) A LSO shall instruct all events IAW V/STOL LSO NATOPS.

(2) Prerequisites and total landing requirements shall be IAW V/STOL LSO NATOPS.

(3) Completion of this stage constitutes CQ(D) qualification.

c. Ground/Academic Training. Review FCLP stage Ground/Academic training.

d. Flight and Simulator Event Training. (2 Events, 4 hours).

SCQ-410 1.0 R NWST/RNWST S

Goal. Perform day CQ.

Requirement. Perform day CQ normal and emergency procedures to a simulated L-class ship. Introduce Case 1 recoveries. Perform a minimum of 6 VL and 5 STO.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, V/STOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS.

Prerequisite. Complete Ground/Academic training, FCLP-401.

External Syllabus Support. FCLP Facility.

CQ-411 3.0 R 1 AV-8B A

Goal. Complete day CQ qualification.

Requirement. Perform day CQ normal and emergency procedures to an L-class ship. Perform Case 1, 2, and 3 recoveries (time and fuel permitting) including TACAN Primary and Overhead, CCA and needles approaches.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, V/STOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS.

Prerequisite. FCLP-410.

External Syllabus Support. L-class ship.

5. Night Carrier Qualification

a. Purpose. Complete CQ(N) qualification.

b. General

(1) A LSO shall instruct all events IAW V/STOL LSO NATOPS.

(2) Prerequisites and total landing requirements shall be IAW V/STOL LSO NATOPS.

(3) Completion of this stage constitutes CQ(N) qualification.

c. Ground/Academic Training. Review FCLP stage Ground/Academic training.

d. Flight and Simulator Event Training. (4 Events, 7.0 Hours).

SCQ-412 1.0 R NWST/RNWST S N

Goal. Perform CQ at night (unaided).

Requirement. Perform night (unaided) CQ normal and emergency procedures to a simulated L-class ship. Perform Case 2 and Case 3 recoveries. Perform CCA and AWLS approaches. Perform a minimum of 6 VL and 5 STO.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, V/STOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS.

Prerequisite. CQ-411.

External Syllabus Support. FCLP Facility.

CQ-413 2.0 R 1 AV-8B A N

Goal. Perform CQ at night (unaided).

Requirement. Perform night (unaided) CQ normal and emergency procedures to an L-class ship. Perform Case 2, and 3 recoveries (time and fuel permitting) including TACAN Primary and Overhead, CCA and needles approaches.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, V/STOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS.

Prerequisite. SCQ-412.

External Syllabus Support. L-class ship.

SCQ-414 1.0 R NWST/RNWST S NS

Goal. Perform CQ at night (aided).

Requirement. Perform night (aided) CQ normal and emergency procedures to a simulated L-class ship. Perform Case 1 recoveries. Perform a minimum of 6 VL and 5 STO.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, V/STOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS.

Prerequisite. SCQ-411, NS-255.

CQ-415 3.0 R 1 AV-8B A NS

Goal. Perform CQ at night (aided).

Requirement. Perform night (aided) CQ normal and emergency procedures to an L-class ship. Perform Case 1.

Performance Standards
Execute all procedures IAW AV-8B NATOPS, V/STOL LSO NATOPS, Shipboard Operating Bulletin and LHA/LHD NATOPS.

Prerequisite. SCQ-414.

External Syllabus Support. Ship.

6. Forward Base Operations (FBO)

a. Purpose. Complete FBO qualifications.

b. General. The applicable LSS shall instruct all events.

c. Ground/Academic Training

(1) Readings. Review NAVAIR 00-80-T-11S, Expeditionary Airfields FOB NATOPS Manual

(2) Lectures. Review the following AV-8B Courseware lecture: Forward Base Operations

(3) Chalk Talks/Practical Application. None.

(4) Exams. None.

d. Flight and Simulator Event Training. (4 Events, 6.0 Hours).

SFBO-420 1.0 R RNWST/NWST S

Goal. Practice day FBO.

Requirement. Perform V/STOL to an air facility. Instruction shall include FOD avoidance procedures, emergencies including

RPM rollback on STO, abort and ejection decisions, water failure during approach, and flap failure STO. A minimum of 6 takeoffs and landings is required for completion.

Performance Standards
Execute all procedures IAW AV-8B NATOPS.
Achieve an average pass grade of 2.5.

Prerequisite. Complete Ground/Academic training, FAM-202.

FBO-421 2.0 R 1 AV-8B A

Goal. Practice day FBO.

Requirement. Perform V/STOL to an actual or simulated air facility (100-feet by 3,000-feet maximum landing area). Instruction shall emphasize FOD avoidance procedures, line-up control and accurate touch down point and ground speed. A minimum of 4 takeoff and landings is required for completion.

Performance Standards
Execute all procedures IAW AV-8B NATOPS.
Achieve an average pass grade of 2.5.

Prerequisite. SFBO-420.

External Syllabus Support. Facility or road.

SFBO-422 1.0 R RNWST/NWST S (NS)

Goal. Practice FBO at night.

Requirement. Perform V/STOL to an air facility at night. Instruction shall include landing area lighting, FOD avoidance procedures, and emergency procedures. A minimum of 6 takeoffs and landings is required for completion.

Performance Standards
Execute all procedures IAW AV-8B NATOPS and ANTTP 3-22.1-AV8B.
Achieve an average pass grade of 2.5.

Prerequisite. SFBO-420, (NS-255 if aided).

FBO-423 2.0 R 1 AV-8B A (NS)

Goal. Practice FBO at night.

Requirement. Perform V/STOL to an actual or simulated air facility (100-feet by 3,000-feet maximum landing area). Instruction shall emphasize FOD avoidance procedures, line-up control and accurate touch down point and ground speed. A minimum of 4 takeoff and landings is required for completion.

Performance Standards
Execute all procedures IAW AV-8B NATOPS and ANTTP 3-22.1-AV8B.
Achieve an average pass grade of 2.5.

Prerequisite. FBO-421, SFBO-422.

External Syllabus Support. Facility or road.

7. Advanced LAT

a. Purpose. Develop proficiency in LAT procedures in section. Complete NSQ Low qualification.

b. General

(1) All training shall be conducted IAW NAVMC DIR 3500.14, Aviation Training and Readiness Manual, Chapter 4, Rules of Conduct.

(2) All mission planning and flight briefs shall include BAM/BASH data and current route obstructions and consideration.

(3) Non-NSQ Low pilots shall be LAT and NSQ-Hi prior to NSQ Low training (LAT 432-437).

(4) A LATI shall instruct LAT-430 and LAT-431 initial training.

(5) A NSLATI shall instruct SLAT-432 through LAT-437 initial training.

c. Ground/Academic Training

(1) Readings. None.

(2) Lectures. Receive the following MAWTS-1 Common Courseware lecture by a NSLATI: NS LAT Considerations

(3) Chalk Talks/Practical Application. None.

(4) Exams. None.

e. Flight and Simulator Event Training. (8 Events, 9.8 Hours).

LAT-430 1.3 2 AV-8B A

Goal. Low altitude target area tactics.

Requirement. Complete 3 low altitude section attacks.

Performance Standards
Maintain a minimum 200-foot clearance of all obstructions.
Execute all procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to LAT Rules of Conduct.
Execute briefed air-to-surface timeline.
Comply with Tactical Abort Parameters.
Valid weapon release IAW AIR NTTP 3-22.1-AV8B.
Correct ALSA Communication Brevity.
Proficient cockpit management including TCT and MCT.

Prerequisite. LAT-223.

Ordnance. High drag, free fall ordnance and expendables.

Range Requirements. LAT, TGT, HE or INERT.

LAT-431 1.3 R 2 AV-8B A

Goal. Introduce low altitude threat countertactics in section.

Requirement. Practice threat countertactics at low altitude in section. Emphasize threat recognition, identification and assessment, decision points based on threat matrix, ALSA Communication Brevity, and reactions versus threat engagement timeline.

Performance Standards
Maintain a minimum of 200-foot clearance of all obstructions.
Execute all LAT and procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to surface-to-air threat countertactics gameplan.
Adhere to LAT Rules of Conduct.
Execute briefed air-to-surface timeline.
Comply with Tactical Abort Parameters.
Valid weapon release IAW AIR NTTP 3-22.1-AV8B.
Correct ALSA Communication Brevity.
Proficient cockpit management including TCT and MCT.

Prerequisite. AS-243, LAT-430.

Ordnance. High drag, free fall ordnance and expendables.

Range Requirements. LAT, MTR.

SLAT-432 1.0 NWST/RNWST S NS

Goal. Introduce basic and advanced NS LAT.

Requirement. Perform basic and advanced LAT procedures on a closed LAT circuit at night in a mountainous database. Demonstrate low angle, high illumination NVD problems. Practice straight and level flight, 4 level turns, 2 ridgeline crossings, terrain masking, and climb-to-cope. Practice 1 transition to LAT, 2 SOJ, 2 TOJ, 2 ROJ, 2 guns jink, and 2 break turns. Instruction shall emphasize TCT and MCT; efficient scan techniques that enable aerodynamic, vector, and altitude control; adherence to the 10-degree rule, 50% rule, and dive recovery rules.

Performance Standards
Maintain a minimum of 100-foot clearance of all obstructions.
Execute all procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to LAT Rules of Conduct.
Correct ALSA Communication Brevity.
Proficient cockpit management including TCT and MCT.

Prerequisite. SLAT-431, NS-255.

SLAT-433 1.0 R NWST/RNWST S NS

Goal. Review basic and advanced NS LAT. Introduce target attacks and threat countertactics in the LAT environment.

Requirement. Review all basic and advanced LAT procedures and threat countertactics at night. Perform 2 attacks at low altitude at night. Instruction shall emphasize sensor management, deconfliction, mutual support, standardized communications, threat recognition, identification and assessment, decision points on a threat matrix, and reactions versus threat engagement timeline.

Performance Standards
Maintain a minimum of 100-foot clearance of all obstructions.
Execute all procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to surface-to-air threat countertactics gameplan.
Adhere to LAT Rules of Conduct.
Execute briefed air-to-surface timeline.
Comply with Tactical Abort Parameters.
Valid weapon release IAW AIR NTTP 3-22.1-AV8B.
Correct ALSA Communication Brevity.
Proficient cockpit management including TCT and MCT.

Prerequisite. SLAT-432.

LAT-434 1.3 2 AV-8B A NS

Goal. Introduce basic NS LAT.

Requirement. As a chased aircraft, perform basic LAT procedures at night on closed LAT circuit. Practices straight and level flight, 4 level turns, sustained and hard turns, ridgeline crossings, terrain masking, and climb-to-. Instruction shall emphasize TCT and MCT; and efficient scan techniques which enable aerodynamic, vector, and altitude control.

Performance Standards
Maintain a minimum 200-foot clearance of all obstructions.
Execute all procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to LAT Rules of Conduct.
Correct ALSA Communication Brevity.
Proficient cockpit management including TCT and MCT.

Prerequisite. SLAT-433.

Range Requirements. LAT.

LAT-435 1.3 R 2 AV-8B A NS

Goal. Introduce advanced NS LAT.

Requirement. As a chased aircraft, perform all basic and advanced LAT procedures, including 1 target attack at night on a closed LAT circuit. Instruction shall emphasize TCT and MCT, sensor management, threat recognition, identification and

assessment, decision points on a threat matrix, and reactions versus threat engagement timeline.

Performance Standards
Maintain a minimum of 200-foot clearance of all obstructions.
Execute all procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to surface-to-air threat countertactics gameplan.
Adhere to LAT Rules of Conduct.
Execute briefed air-to-surface timeline.
Comply with Tactical Abort Parameters.
Valid weapon release IAW AIR NTTP 3-22.1-AV8B.
Correct ALSA Communication Brevity.
Proficient cockpit management including TCT and MCT.

Prerequisite. LAT-434.

Ordnance. ALQ-164 and self-protect expendable.

Range Requirements. LAT.

LAT-436 1.3 2 AV-8B A NS

Goal. Introduce NS LAT as a wingman.

Requirement. As a wingman, perform basic and advanced LAT in section planned LAT circuit. Instruction shall emphasize MCT, position keeping, mutual support, deconfliction, and roles/responsibilities.

Performance Standards
Maintain a minimum of 200-foot clearance of all obstructions.
Maintain formation parameters IAW AV-8B TACSOP.
Execute all procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to LAT Rules of Conduct.
Correct ALSA Communication Brevity.
Proficient cockpit management including TCT and MCT.

Prerequisite. LAT-435.

Range Requirements. LAT.

LAT-437 1.3 R 2 AV-8B A NS

Goal. Introduce target area tactics at low altitude at night.

Requirement. As a lead and then wingman, execute 2 target attacks at low altitude. Practice section threat countertactics at low altitude. Instruction shall emphasize TCT and MCT, attack geometry, mutual support, and standardized communications.

Performance Standards
Maintain a minimum of 200-foot clearance of all obstructions.
Execute all procedures IAW Air NTTP 3-22.1-AV8B.
Adhere to surface-to-air threat countertactics gameplan.
Adhere to LAT Rules of Conduct.
Execute briefed air-to-surface timeline.

Comply with Tactical Abort Parameters.
Valid weapon release IAW AIR NTTP 3-22.1-AV8B.
Correct ALSA Communication Brevity.
Proficient cockpit management including TCT and MCT.

Prerequisite. LAT-436.

Ordnance. Simulated free fall ordnance and expendables.

Range Requirements. LAT, TACTS, HE or INERT, TGT.

8. Assault Support Escort (ASE)

a. Purpose. Develop proficiency in ASE.

b. General. A Section Lead shall instruct all events.

c. Ground/Academic Training

(1) Readings

(a) Air NTTP 3-22.1-AV8B

1. Chapter 12, Tactical Recovery of Aircraft and Personnel

2. Chapter 20, Assault Support Escort

(b) AV-8B TACSOP

1. Assault Support Escort

2. Tactical Recovery of Aircraft and Personnel

(2) Lectures. Receive the following MAWTS-1 Common Courseware lecture: Assault Support Escort

(3) Chalk Talk/Practical Application. None.

(4) Exams. None.

d. Flight and Simulator Event Training. (1 Events, 1.3 Hours).

ASE-440 1.3 R 2+ AV-8B A (NS)

Goal. Perform ASE.

Requirement. Perform ASE. Planning and briefing shall include mission tasking; attached, detached, and/or combined escort gameplans; execution checklist integration; communication plan; assault routing; air-to-air and/or surface-to-air threat engagement gameplans; actions at the landing zone; initial terminal guidance (ITG); fires coordination, ROE, and AMC and EFL roles/responsibilities. Scenario must include either an actual or simulated surface-to-air or air-to-air threat.

Performance Standards
Execute all tasking (CAS, AR, NTISR, and/or AAW) IAW Air NTTP 3-22.1-AV8B.
Maintain awareness of the assault package and status of execution checklist.
Adhere to ROE and briefed fires coordination gameplan.

Prerequisite. Complete Ground/Academic training, CAS-307, AR-313.

Ordnance. TPOD, Free fall ordnance or PGM and expendables.

Range Requirements. RSTD, JCAS, LGB or JDAM.

External Syllabus Support. Assault support assets.

9. Ground Convoy Escort (GCE)

a. Purpose. Develop proficiency in GCE.

b. General. A Section Lead shall instruct all events.

c. Ground/Academic Training

(1) Readings. AV-8B TACSOP. Ground Convoy Escort

(2) Lectures. None.

(3) Chalk Talk/Practical Application. None.

(4) Exams. None.

d. Flight and Simulator Event Training. (1 Event, 1.3 Hours).

GCE-441 1.3 R 2+ AV-8B A (NS)

Goal. Perform GCE.

Requirement. Perform ground escort. Planning and briefing shall include mission tasking; convoy objectives; attached, detached, and/or combined escort gameplans; communication plan; convoy routing; surface threat to the convoy; convoy actions on contact; fires coordination, ROE, and Convoy Commander roles/responsibilities.

Performance Standards
Execute all tasking (CAS, AR, NTISR) IAW Air NTTP 3-22.1-AV8B.
Maintain awareness of the convoy.
Adhere to ROE and briefed fires coordination gameplan.

Prerequisite. Complete Ground/Academic training, CAS-307, AR-312.

Ordnance. TPOD, simulated free fall ordnance or PGM and expendables.

Range Requirements. RSTD, EXP.

External Syllabus Support. Ground convoy.

10. Low Altitude OAS

a. Purpose. Develop proficiency in CAS and AI execution during day and night missions at low altitude in a medium to high threat environment.

b. General. A Section Lead shall instruct all events.

c. Ground/Academic Training

(1) Readings. Air NTTP 3-22.1-AV8B.

(a) Review Chapter 8, Deep Air Support

(b) Review Chapter 9, Close Air Support

(2) Lectures. None.

(3) Chalk Talks/Practical Application

(a) Low Altitude CAS execution

(b) Low Altitude AI execution

d. Flight and Simulator Event Training. (2 Events, 2.6 Hours).

OAS-450 1.3 R 2 AV-8B A (NS)

Goal. Introduce CAS at low altitude, day or night.

Requirement. Conduct 2 attacks under Type 1, 2, or 3 terminal attack control. Emphasize systems management, target PID, target area tactics, reactive weaponeering, threat countertactics and standardized communications.

Performance Standards
Execute IAW with JPub 3-09.3.
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.
TOT +/- 15 seconds.

Prerequisite. LAT-431, CAS-307, (LAT-437 if flown at night).

Ordnance. TPOD, high drag free fall ordnance, ALQ-164, and expendables.

Range Requirements. LAT, HE or INERT, JCAS.

OAS-451 1.3 R 2+ AV-8B A (NS)

Goal. Introduce AI at low altitude. threat.

Requirement. Conduct a low altitude AI with a surface-to-air and air-to-air threat.

Performance Standards
Adhere to ACM training rules.
Execute IAW Air NTTP 3-22.1-AV8B.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Weapon impact within +/- 15 seconds of TOT.
Valid weapon release IAW Air NTTP 3-22.1-AV8B.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Communicate an accurate MISREP to the MACCS.
Correct ALSA Communication Brevity.

Prerequisite. AI-353, LAT-431, (LAT-437 if flown at night).

Ordnance. TACTS pod, CAIM-9M-8, free fall ordnance, ALQ-164, and expendables.

Range Requirements. TACTS, TGT, HE or INERT, LSR, AA.

External Syllabus Support. AIC, RADAR equipped adversary.

11. Non-Traditional ISR (NTISR)

a. Purpose. Develop proficiency executing Non-Traditional ISR.

b. General. A Section Lead shall instruct all events.

c. Ground/Academic Training. None.

d. Flight and Simulator Event Training. (1 Event, 1.3 Hours).

NTISR-460 1.3 R 2 AV-8B A (NS)

Goal. Perform Non-traditional ISR.

Requirement. Conduct NTISR. Planning and briefing shall include detailed mission tasking; detailed waypoint plan to support intelligence objectives; detailed sensor footprint and supporting flight profile; sensor FOV/Zoom plan, optics/polarity plan, RADAR mapping plan; and data collection and communication requirements. Debrief with tasking unit including 8mm tape review and capture.

Performance Standards
Execute all mission tasking IAW Air NTTP 3-22.1-AV8B.

Prerequisite. AS-244, (NS-255 if flown at night).

Ordnance. TPOD.

Range Requirements. RSTD, RECCE ARRAY, COMPLEX.

12. Large Force Exercise (LFE)

a. Purpose. Develop proficiency integrating in a LFE under daylight or night conditions.

b. General

(1) The LFE shall include at least 4 of following assets: strike element, sweep element, SEAD element, EA/ES assets, AAR assets, and command and control assets.

(2) The LFE shall include a surface-to-air and/or air-to-air threat.

(3) A Mission Commander shall instruct all events.

c. Ground/Academic Training. None.

d. Flight and Simulator Event Training. (2 Events, 2.6 Hours).

LFE-470 1.3 4+ AV-8B A

Goal. Execute a day LFE.

Requirement. Complete a day LFE.

Performance Standards
Execute all mission tasking IAW Air NTTP 3-22.1-AV8B.
Adhere to all applicable Rules of Conduct and Training Rules.
Adhere to air-to-surface and/or air-to-air timelines.
Adhere to surface-to-air and/or air-to-air threat countertactics gameplans.
100% valid air-to-surface and/or air-to-air weapon releases.
Correct ALSA Communication Brevity.

Prerequisite. AI-353.

Ordnance. JDAM or LGB, CATM-9M-8, TACTS, and expendables.

Range Requirements. TACTS, WISS, JDAM or LGB, EXP, COMPLEX.

External Syllabus Support. Per scenario.

LFE-471 1.3 R 4+ AV-8B A NS

Goal. Execute a night LFE.

Requirement. Complete a night LFE.

Performance Standards
Execute all mission tasking IAW Air NTTP 3-22.1-AV8B.
Adhere to all applicable Rules of Conduct and Training Rules.
Adhere to air-to-surface and/or air-to-air timelines.
Adhere to surface-to-air and/or air-to-air threat countertactics gameplans.
100% valid air-to-surface and/or air-to-air weapon releases.
Correct ALSA Communication Brevity.

Prerequisite. AI-353.

Ordnance. JDAM or LGB, CATM-9M-8, TACTS, and expendables.

Range Requirements. TACTS, WISS, JDAM or LGB, EXP, COMPLEX.

External Syllabus Support. Per scenario.

13. Forward Air Controller (Airborne) FAC(A)

a. Purpose. Complete FAC(A) qualification.

b. General

(1) The JCAS AP MOA 2004-02 (referred to as the JFAC(A) MOA) provides the minimum standard for certification and qualification as a FAC(A). Meeting the T&R syllabus requirements for FAC(A) will meet the JFAC(A) MOA requirements. The JFAC(A) MOA can be found on the SIPRNET at http://jfaca.mawts-1.usmc.smil.mil.

(2) Prior to beginning this stage, AV-8B pilots shall be either a division leader with prior ground FAC or FAC(A) experience or a Mission Commander.

(3) Upon completion of FAC(A)-490, with JFAC(A) MOA requirements met, the commanding officer may issue a T&R FAC(A) qualification and a JFAC(A) MOA FAC(A) certification.

(4) Unqualified pilots will fly FAC(A)-480 through FAC(A)-490 with a MAWTS-1 certified FAC(A)I designated by the commanding officer. The FAC(A)I will fly in the escort aircraft. F/A-18D FAC(A)I aircraft may be used to fulfill this requirement. The FAC(A)I may simulate the GFAC/JTAC if one is not available.

(5) FAC(A)-491 through FAC(A)-496 are not required for initial FAC(A) qualification.

(6) A non-qualified FAC(A) pilot must have a FAC(A)I in the section and may not control CAS aircraft delivering actual ordnance closer than the most conservative of minimum safe distance, 1000 meters, or range regulations. A FAC(A) qualified pilot may not employ CAS aircraft delivering actual ordnance closer than the most conservative of minimum safe distance or range regulations.

(7) FAC(A)-480 through FAC(A)-487 are work-up events. The FAC(A)I may brief any sortie, however the intent is for the FAC(A) under instruction to develop planning, briefing and debriefing skills throughout the syllabus.

(8) FAC(A)-488 through FAC(A)-490 are exercises in integrating the fire support assets previously controlled separately. The intent is to expose prospective FAC(A) pilots to the unique challenges posed by each asset when integrated with fixed wing CAS. Each sortie should concentrate on the integration procedures for a different asset, culminating in a final checkride, FAC(A)-490, using multiple fire support assets. If FAC(A)-488 integrates IDFS assets, FAC(A)-489 should integrate RW/UAV CAS and vice versa. If RW/UAV assets are integrated, emphasis is on combined or sectored sequential attacks. If IDFS is integrated, emphasis is on altitude or lateral deconfliction of fires effects using standard SEAD templates. At a

minimum, IDFS must be integrated into one of the sorties in the FAC(A)-488 through FAC(A)-490 range, with FAC(A)-488 being the preferred sortie.

(9) Due to the high-task loading nature of the FAC(A) mission, pilots who achieved their initial FAC(A) qualification in an F/A-18D, will complete the entire qualification syllabus in an AV-8B prior to being FAC(A) qualified in an AV-8B squadron.

(10) Failure to meet JFAC(A) MOA proficiency or currency requirements, or loss of proficiency (delinquent refly factor) for all associated FAC(A) qualification events (per paragraph 500.1.b), constitutes loss of the FAC(A) qualification.

(11) Pilots who have lost the FAC(A) qualification due to failure to meet JFAC(A) MOA Proficiency or Currency requirements shall regain the FAC(A) qualification by successfully completing events as delineated in the appropriate T&R syllabus under the supervision of a qualified FAC(A). At a minimum, such pilot must complete the number and category (appropriate night, control type, ordnance, etc.) of controls the individual failed to accomplish during the appropriate Currency or Proficiency period (Currency - 2 controls in 90 days. Proficiency - 6 controls in a six month period; 4 of these 6 controls must be Type 1, 1 control must be at night, and at least 1 must control an asset that expends ordnance).

(12) Pilots who have lost the FAC(A) qualification due to exceeding the refly interval in all associated qualification events, or who have been FAC(A) unqualified for 18 consecutive months per the JFAC(A) MOA, shall regain qualification by completing the appropriate Refresher FAC(A) syllabus under the supervision of a FAC(A)I and conduct a minimum of 6 controls (4 of these 6 controls must be Type 1, 1 control must be at night, and at least 1 must control an asset that expends ordnance).

(13) The intent of the T&R re-fly intervals is to meet the JFAC(A) MOA minimum requirements for currency/proficiency controls:

JFAC(A) MOA requirements				
Interval	**Controls**	**Type 1**	**Night**	**Ordnance**
90 days	2	*	*	*
180 days	6	4	1	1
Initial Certification	12	8	1	4
* No specified requirements in these areas for this interval				

(14) Escort aircraft that are not flown by a FAC(A)I conducting instruction during a FAC(A) workup will log a ESC-496. Escort aircraft that are flown by a FAC(A)I conducting instruction during a FAC(A)/FAC(A)I workup will log the appropriate FAC(A) code and log the FAC(A) controls. AV-8B FAC(A)s should fly as a section, while the escort for an AV-8B FAC(A) will be a qualified section lead. Escort aircraft shall not fulfill the external support requirement of a fixed wing CAS element for any FAC(A) qualification workup sortie.

c. Ground/Academic Training. Refer to JFAC(A) MOA.

d. Flight and Simulator Event Training. (15 Events, 18.9 hours).

SFAC(A)-480 1.0 RNWST/NWST S

Goal. Type 1, 2, and 3 control procedures.

Requirement. Perform type 1, 2, and 3 controls. Emphasize C3 integration, target area flow and timing; sensor management, and Crew Resource Management. Execute 2 type 1, 2 type 2, and 2 type 3 controls. The FAC(A)I shall simulate C3 agencies, TACP and CAS aircraft.

Performance Standards
Execute type 1, 2, and 3 terminal attack control IAW JPub 3-09.3.
Accurate target coordinate and 9-line generation.
Proper coordination and approval for CAS attacks.
Effective FAC(A) aircraft position to provide marking and control with consideration of threat and friendly positions.
Correct ALSA Communication Brevity.

Prerequisite. Complete Ground/Academic training, CAS-307, SCAR-321.

SFAC(A)-481 1.0 RNWST/NWST S (NS)

Goal. Adverse weather, high-threat control procedures.

Requirement. Perform type 1 high-threat controls. Emphasize C3 integration, target area flow, integration, and timing; sensor management, and Crew Resource Management. Execute 4 type 1 controls. A SEAD CFF mission shall be given for each TOT. The FAC(A)I shall simulate C3 agencies, TACP, indirect fire assets and CAS aircraft. Weather is overcast at 8,000-feet.

Performance Standards
Execute type 1 terminal attack control IAW JPub 3-09.3.
Accurate target coordinate and 9-line generation.
Proper coordination and approval for IDF and CAS attacks.
Effective FAC(A) aircraft position to provide marking and control with consideration of threat and friendly positions.
Correct ALSA Communication Brevity.

Prerequisite. SFAC(A)-480.

FAC(A)-482 1.3 2 AV-8B A

Goal. Introduce type 1 and 2 control procedures of fixed wing CAS assets in a low-threat environment.

Requirement. On a tactical range, perform visual/sensor reconnaissance of 3 separate targets and generate target coordinates with aircraft systems. Plot each target on gridded imagery/chart. Perform authentication procedures. Perform 2 type 1 and 2 type 2 controls of fixed wing aircraft utilizing level and roll-in delivery profiles. Deliver or coordinate LASER mark on target and guide 1 LGW to impact. Provide BHA. If a range that permits Type 2 control is not

available, type 2 control may be evaluated with simulated deliveries.

Performance Standards
Executes appropriate search, detection, and PID profiles.
Execute type 1 and 2 terminal attack control IAW JPub 3-09.3.
Accurate target coordinate and 9-line generation.
Proper coordination and approval for CAS attacks.
Effective FAC(A) aircraft position to provide marking and control with consideration of threat and friendly positions.
Successfully provides LASER mark guiding LGW to impact.
Correct ALSA Communication Brevity.

Prerequisite. SFAC(A)-481.

Ordnance. TPOD, expendables.

Range Requirements. RSTD, LSR, HE. JCAS, JDAM, LGB.

External Syllabus Support. Fixed wing CAS with live, inert or captive PGM; GFAC or JTAC.

FAC(A)-483 1.3 R 2 AV-8B A

Goal. Introduce type 1 and 3 control procedures of fixed wing CAS assets with GP ordnance in a low-threat environment.

Requirement. On a tactical range, perform visual/sensor reconnaissance of 3 separate targets and generate target coordinates with aircraft systems. Plot each target on gridded imagery/chart. Perform authentication procedures. Perform 3 type 1 and 1 type 3 controls of fixed wing aircraft with GP ordnance. Deliver or coordinate marking rounds with at least 1 mark via aircraft ordnance. Provide talk-ons and corrections. Provide BHA.

Performance Standards
Executes appropriate search, detection, and PID profiles.
Execute type 1 and 3 terminal attack control IAW JPub 3-09.3.
Accurate target coordinate and 9-line generation.
Marks target within 300 meters.
Accurate talk-ons and corrections from the mark.
Proper coordination and approval for CAS attacks.
Effective FAC(A) aircraft position to provide marking and control with consideration of threat and friendly positions.
Correct ALSA Communication Brevity.

Prerequisite. SFAC(A)-481.

Ordnance. TPOD, Rockets, and expendables.

Range Requirements. RSTD, LSR, HE. JCAS, JDAM, LGB.

External Syllabus Support. Fixed wing CAS asset(s) with live or inert GP ordnance, GFAC/JTAC.

FAC(A)-484 1.3 2 AV-8B A (NS)

Goal. Introduce type 1, 2, and 3 control procedures of rotary wing CAS assets in a low-threat environment.

Requirement. On a tactical range, perform visual/sensor reconnaissance of 3 separate targets and generate target coordinates with aircraft systems. Plot each target on gridded imagery/chart. Perform authentication procedures. Perform 2 type 1, 2 type 2, and 1 type 3 controls of rotary wing aircraft. Deliver marking rounds or talk-on (rockets, guns, TOW); or provide LASER designation (Hellfire). For type 1 controls of rockets or guns, emphasize providing corrections, ensuring compliance with limit-of-advance, and providing threat lookout for rotary wing assets in the target area. For type 1 controls of TOW, emphasize target sort and ensuring no friendlies in the SDZ. Two, actual or simulated, TOW and/or Hellfire controls are required for completion. One of the 2 controls must have the FAC(A) lasing the Hellfire. Provide BHA.

Performance Standards
Executes appropriate search, detection, and PID profiles.
Execute type 1, 2, and 3 terminal attack control IAW JPub 3-09.3.
Accurate target coordinate and 9-line generation.
Marks target within 300 meters.
Accurate talk-ons and corrections from the mark.
Proper coordination and approval for CAS attacks.
Effective FAC(A) aircraft position to provide marking and control with consideration of threat and friendly positions.
Correct ALSA Communication Brevity.

Prerequisite. SFAC(A)-481.

Ordnance. TPOD, free fall or forward firing GP ordnance, expendables.

Range Requirements. RSTD, LSR, HE. JCAS, JDAM, LGB.

External Syllabus Support. Rotary wing CAS asset(s) with live/captive Hellfire, GFAC/JTAC.

FAC(A)-485 1.3 2 AV-8B A (NS)

Goal. Introduce type 1, 2, and 3 control procedures in an urban environment.

Requirement. In an urban environment, perform visual/sensor reconnaissance of 3 separate targets and generate target coordinates with aircraft systems. Plot each target on Gridded Reference Graphic (GRG). Perform authentication procedures. Perform 2 type 1 and 2 type 2/3 controls of aircraft. Deliver or coordinate marking rounds as required. Provide GRG based talk-ons and corrections. Provide BHA.

Performance Standards
Executes appropriate search, detection, and PID profiles.
Execute type 1, 2, and 3 terminal attack control IAW JPub 3-09.3.
Accurate target coordinate and 9-line generation.
Accurate GRG talk-ons.
Proper coordination and approval for CAS attacks.
Effective FAC(A) aircraft position to provide marking and control with consideration of threat and friendly positions.
Correct ALSA Communication Brevity.

Prerequisite. SFAC(A)-481.

Ordnance. TPOD, expendables.

Range Requirements. RSTD, LSR, HE. JCAS, JDAM, LGB, URBN WPNS.

External Syllabus Support. CAS asset(s), GFAC/JTAC.

FAC(A)-486 1.3 2 AV-8B A (NS)

Goal. Introduce mortar/artillery airspot.

Requirement. On a tactical range, perform visual/sensor reconnaissance of 3 separate targets and generate target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare call-for-fire briefs. Emphasize accurate call-for-fire communications and adjustment procedures. Execute 1 LASER adjust fire, 1 immediate suppression, 1 SEAD mission, and 1 high threat SEAD mission. Emphasize high-threat airspot and positioning to provide redundant mark and accurate corrections for IDFS. Simulated weather is overcast at 8,000-feet MSL. Both SEAD missions must include marking and suppressing targets.

Performance Standards
Executes appropriate search, detection, and PID profiles.
Proper communication format with the firing unit.
Provide timely and accurate corrections to the firing unit.
Complete an immediate suppression CFF within 60 seconds of receiving the mission from the FAC/FO.
Correct ALSA Communication Brevity.

Prerequisite. SFAC(A)-481.

Ordnance. TPOD, expendables .

Range Requirements. RSTD, LSR, HE. JCAS, JDAM, LGB.

External Syllabus Support. IDFS asset and GFAC or FO. IDFS asset requires a minimum of 10 HE rounds, 2 WP rounds, and 8 illumination rounds.

FAC(A)-487 1.3 R 2 AV-8B A NS

Goal. Introduce type 1 and 2 control procedures at night in a low threat environment.

Requirement. On a tactical range, perform visual/sensor reconnaissance of 3 separate targets and generate target coordinates with aircraft systems. Plot each target on gridded imagery/chart. Perform authentication procedures. Control 2 Type 1 and 2 Type 2 attacks by fixed wing aircraft. Deliver or coordinate marks. At least 1 Type 1 control must use an IR pointer. At least 1 Type 1 control must be supported by air-delivered illumination. Provide BHA. If a range that permits Type 2 control is not available, Type 2 control may be evaluated with simulated deliveries.

Performance Standards
Executes appropriate search, detection, and PID profiles.
Execute type 1, and 2 terminal attack control IAW JPub 3-09.3.
Accurate target coordinate and 9-line generation.
Proper coordination and approval for CAS attacks.
Effective FAC(A) aircraft position to provide marking and control with consideration of threat and friendly positions.
Correct ALSA Communication Brevity.

Prerequisite. FAC(A)-482 through FAC(A)-486.

Ordnance. TPOD, free fall or forward firing munitions, 4 LUU-2/19, expendables.

Range Requirements. RSTD, LSR, HE. JCAS, JDAM, LGB.

External Syllabus Support. Fixed Wing CAS assets, GFAC/JTAC.

FAC(A)-488 1.3 R 2 AV-8B A

Goal. Introduce asset integration procedures in a day, medium threat environment.

Requirement. On a tactical range, perform visual/sensor reconnaissance of 3 separate targets and generate target coordinates with aircraft systems. Plot each target on gridded imagery/chart. Perform authentication procedures. Control 4 type 1 attacks by fixed wing aircraft employing medium threat tactics. A minimum of 2 attacks shall be pop-up attacks. Deliver or coordinate marks. Provide BHA.

Performance Standards
Executes appropriate search, detection, and PID profiles.
Execute type 1 terminal attack control IAW JPub 3-09.3.
Accurate target coordinate and 9-line generation.
Proper coordination and approval for CAS attacks.
Effective FAC(A) aircraft position to provide marking and control with consideration of threat and friendly positions.
Correct ALSA Communication Brevity.

Prerequisite. FAC(A)-487.

Ordnance. TPOD, free fall or forward firing ordnance, expendables.

Range Requirements. RSTD, LSR, HE. JCAS, JDAM, LGB.

External Syllabus Support. 1 fixed wing asset and 1 additional fire support asset (RW CAS, UAV, or IDFS) and GFAC/JTAC.

FAC(A)-489 1.3 R 2 AV-8B A NS

Goal. Introduce asset integration procedures in a night, medium threat environment.

Requirement. On a tactical range, perform visual/sensor reconnaissance of 3 separate targets and generate target coordinates with aircraft systems. Plot each target on gridded imagery/chart. Perform authentication procedures. Control 2 type 1 and 2 type 2 by fixed wing aircraft employing medium threat tactics. Provide BHA. If a range that permits type 2 control is not available, Type 2 control may be evaluated with simulated deliveries.

Performance Standards
Executes appropriate search, detection, and PID profiles.
Execute type 1 and 2 terminal attack control IAW JPub 3-09.3.
Accurate target coordinate and 9-line generation.
Proper coordination and approval for CAS attacks.
Effective FAC(A) aircraft position to provide marking and control with consideration of threat and friendly positions.
Correct ALSA Communication Brevity.

Prerequisite. FAC(A)-488.

Ordnance. TPOP, free fall or forward firing munitions, expendables.

Range Requirements. RSTD, LSR, HE. JCAS, JDAM, LGB.

External Syllabus Support. 1 fixed wing asset and 1 additional fire support asset (RW CAS, UAV, or IDFS) and GFAC/JTAC.

FAC(A)-490 1.3 R 2 AV-8B A (NS)

Goal. Practice multiple assets and supporting arms integration.

Requirement. Perform visual/sensor reconnaissance, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare target briefs. Plan and execute at least 1 integrated attack utilizing 3 or more elements. For fixed wing, rotary wing, or UAV integration, emphasize conducting a sectored simultaneous or combined sequential attack. For IDFS integration, time, altitude or lateral deconfliction can be used.

Performance Standards
Executes appropriate search, detection, and PID profiles.
Execute type 1, 2, and 3 terminal attack control IAW JPub 3-09.3.
Accurate target coordinate and 9-line generation.
Proper coordination and approval for attacks.
Effective FAC(A) aircraft position to provide marking and control with consideration of threat and friendly positions.
Correct ALSA Communication Brevity.

Prerequisite. FAC(A)-489.

Ordnance. TPOD, free fall or forward firing ordnance, expendables.

Range Requirements. RSTD, LSR, HE. JCAS, JDAM, LGB.

External Syllabus Support. 3 fire support assets, GFAC/JTAC.

FAC(A)-491 1.3 2 AV-8B A (NS)

Goal. Introduce adverse weather procedures in an high-threat environment.

Requirement. On a tactical range, perform visual/sensor reconnaissance of 3 separate targets and generate target coordinates with aircraft systems. Plot each target on gridded imagery/chart. Perform authentication procedures. Control 2 Type 1 pop-up attacks and 2 Type 2 attacks by fixed wing aircraft. Deliver or coordinate marks. Provide BHA. If a range that permits Type 2 control is not available, Type 2 control may be evaluated with simulated deliveries. Simulated weather is overcast at 8,000-feet AGL. May be flown at night if previously flown during the day.

Performance Standards
Executes appropriate search, detection, and PID profiles.
Execute type 1 and 2 terminal attack control IAW JPub 3-09.3.
Accurate target coordinate and 9-line generation.
Proper coordination and approval for attacks.
Effective FAC(A) aircraft position to provide marking and control with consideration of threat and friendly positions.
Correct ALSA Communication Brevity.

Prerequisite. FAC(A)-490.

Ordnance. TPOD, free fall or forward firing ordnance, expendables.

Range Requirements. RSTD, LSR, HE. JCAS, JDAM, LGB.

External Syllabus Support. 1 fixed wing asset, 1 IDFS asset and GFAC/JTAC.

FAC(A)-492 1.3 2 AV-8B A (NS)

Goal. Introduce UAV/UCAV Integration.

Requirement. Perform visual/sensor reconnaissance on 3 tactical targets, generating target coordinates with aircraft systems. Execute 1 LASER spot/target handoff from a UAV/UCAV. Plot targets on gridded imagery/chart and prepare an attack brief. Control 2 type 2 and 2 Type 3 attacks by UAV/UCAV aircraft. Perform authentication procedures. Deliver or coordinate LASER mark on target and guide 1 LGW to impact. Provide BHA and coordinate with UAV/UCAV to provide BHA. If a range that permits Type 2 control is not available, Type 2 control may be evaluated with simulated deliveries.

Performance Standards
Executes appropriate search, detection, and PID profiles.
Execute type 2 and 3 terminal attack control IAW JPub 3-09.3.
Accurate target coordinate and 9-line generation.
Proper coordination and approval for attacks.
Effective FAC(A) aircraft position to provide marking and control with consideration of threat and friendly positions.
Correct ALSA Communication Brevity.

Prerequisite. FAC(A)-490.

Ordnance. TPOD, expendables.

Range Requirements. RSTD, LSR, HE. JCAS, JDAM, LGB.

External Syllabus Support. LGW capable UAV/UCAV, GFAC/JTAC.

FAC(A)-493 1.3 2 AV-8B A (NS)

Goal. Introduce Naval Surface Fire Support airspot.

Requirement. Perform visual/sensor reconnaissance on 3 tactical targets, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare a call-for-fire brief. Emphasize accurate call-for-fire communications and adjustment procedures. Execute 1 adjust fire and 2 mark and SEAD missions.

Performance Standards
Executes appropriate search, detection, and PID profiles.
Employs proper communications format with the firing unit.
Provides timely and accurate corrections to the firing unit.
Requires 4 rounds or fewer to achieve a bracket sufficient for a Fire For Effect.

Prerequisite. FAC(A)-490.

Ordnance. TPOD, expendables.

Range Requirements. RSTD, LSR, HE. JCAS, JDAM, LGB.

External Syllabus Support. Naval Surface Fire Support asset, GFAC/FO/NGLO.

FAC(A)-494 1.3 2 AV-8B A (NS)

Goal. Introduce AC-130 Call For Fire.

Requirement. Perform visual/sensor reconnaissance on 3 tactical targets, generating target coordinates with aircraft systems. Plot targets on gridded imagery/chart and prepare a call-for-fire brief. Emphasize accurate call-for-fire communications and adjustment procedures. Execute 3 missions.

Performance Standards
Executes appropriate search, detection, and PID profiles.
Correctly uses aircraft systems for target coordinate and call-for-fire brief generation.
Provides accurate verbal description during talk-on attacks.
If required, marks the target with a CEP less than 300 meters.
Correct ALSA Communication Brevity.

Prerequisite. FAC(A)-490.

Ordnance. TPOD, expendables.

Range Support. RSTD, LSR, HE. JCAS, JDAM, LGB.

External Syllabus Support. One AC-130 and a ground FAC.

14. Escort

a. Purpose. Develop proficiency escorting FAC(A).

b. General. None.

c. Ground/Academic Training. None.

d. Flight and Simulator Event Training. (1 Event, 1.3 Hours).

ESC-495 1.3 R 2 AV-8B A (NS)

Goal. Introduce FAC(A) escort.

Requirement. Escort a FAC(A).

Performance Standards
Execute assigned tasking.
Provide support to FAC(A) to include communication with MACCS, CAS platform de-confliction.
Maintain situational awareness of FAC(A) and ground units.

Prerequisite. Section Lead.

Ordnance. Free fall ordnance or PGMs and expendables, TPOD.

Range Requirements. Per FAC(A) mission.

140. INSTRUCTOR UNDER TRAINING (IUT)

1. MAWTS-1 Certifications

a. Purpose. Enumerate MAWTS-1 instructor training syllabi.

b. General. All certification sorties will be conducted in accordance with the MAWTS-1 Course Catalog. The Commanding Officer of MAWTS-1 must approve any deviations.

c. Ground/Academic Training. Refer to the MAWTS-1 Course.

d. Flight and Simulator Event Training. (25 Events, 28 Hours).

SWTO-500 1.0 E WST/NWST/RNWST S

Goal. WTO certification sortie.

Requirement. See MAWTS-1 Course Catalog.

SWTO-501 1.0 E WST/NWST/RNWST S

Goal. WTO certification sortie.

Requirement. See MAWTS-1 Course Catalog.

SWTO-502 1.0 E WST/NWST/RNWST S

Goal. WTO certification sortie.

Requirement. See MAWTS-1 Course Catalog.

SWTO-503 1.0 E WST/NWST/RNWST S

Goal. WTO certification sortie.

Requirement. See MAWTS-1 Course Catalog.

WTO-504 1.3 E 2 AV-8B A

Goal. WTO certification sortie.

Requirement. See MAWTS-1 Course Catalog.

WTO-505 1.3 E 2 AV-8B A

Goal. WTO certification sortie.

Requirement. See MAWTS-1 Course Catalog.

SLATI-510 1.0 E WST/NWST/RNWST S

Goal. LATI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

SLATI-511 1.0 E WST/NWST/RNWST S

Goal. LATI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

LATI-512 1.0 E 2 AV-8B A

Goal. LATI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

LATI-513 1.0 E 2 AV-8B A

Goal. LATI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

LATI-514 1.0 E 2 AV-8B A

Goal. LATI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

SNSI-520 1.0 E WST/NWST/RNWST S NS

Goal. NSI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

SNSI-521 1.0 E WST/NWST/RNWST S NS

Goal. NSI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

NSI-522 1.3 E 2 AV-8B A NS

Goal. NSI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

NSI-523 1.3 E 2 AV-8B A NS

Goal. NSI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

SNSLATI-524 1.0 E WST/NWST/RNWST S NS

Goal. NS LATI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

Prerequisite. LATI and NSI.

SNSLATI-525 1.0 E WST/NWST/RNWST S NS

Goal. NS LATI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

Prerequisite. SNSLATI-524.

NSLATI-526 1.3 E 2 AV-8B A NS

Goal. NS LATI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

SACTI-530 1.0 E WST/NWST/RNWST S

Goal. ACTI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

ACTI-531 1.3 E 2 AV-8B A

Goal. ACTI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

ACTI-532 1.3 E 2 AV-8B A

Goal. ACTI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

ACTI-533 1.3 E 2 AV-8B A

Goal. ACTI certification sortie.

Requirement. See MAWTS-1 Course Catalog.

SFAC(A)I-540 1.0 E WST/NWST/RNWST S

Goal. FAC(A)I certification sortie.

Requirement. See MAWTS-1 Course Catalog.

FAC(A)I-541 1.3 E 2 AV-8B A

Goal. FAC(A)I certification sortie.

Requirement. See MAWTS-1 Course Catalog.

FAC(A)I-542 1.3 E 2 AV-8B A

Goal. FAC(A)I certification sortie.

Requirement. See MAWTS-1 Course Catalog.

FAC(A)I-543 1.3 E 2 AV-8B A

Goal. FAC(A)I certification sortie.

Requirement. See MAWTS-1 Course Catalog.

2. VMAT-203 Instructor Under Training Syllabus

a. Purpose. Enumerate FRS instructor training syllabi.

b. General. All training shall be conducted in accordance with the FRS IUT FSG. The VMAT-203 Commanding Officer must approve any deviations.

c. Ground/Academic Training. Refer to the FRS IUT FSG.

(1) GIUT-559. Monitor the brief/debrief of a SNAV-066 IAW VMAT-203 IUT FSG.

(2) GIUT-570. Monitor the brief/debrief of a late stage familiarization sortie IAW VMAT-203 IUT FSG.

(3) GIUT-592. Monitor as RTO an A/A Radar Intercept sortie from TACTS range.

d. Landing Site Instructor (LSI) Training. LSI 1-3 training shall be accomplished prior to flight with students in the aircraft. The LSI syllabus requirements are detailed in the IUT FSG.

(1) LSI-1

Goal. Observe LSI control of FAM solo flight.

Requirement. IAW VMAT-203 IUT FSG.

(2) LSI-2

Goal. Introduction to LSI control of FAM solo flight.

Requirement. IAW VMAT-203 IUT FSG.

(3) LSI-3

Goal. Review LSI control of FAM solo flights.

Requirement. IAW VMAT-203 IUT FSG.

(4) LSI-4

Goal. Review LSI control introducing night LSI procedures.

Requirement. IAW VMAT-203 IUT FSG.

(5) LSI-5

Goal. Review LSS control and introduce FBO operations from an approved EAF site.

Requirement. IAW VMAT-203 IUT FSG.

(6) LSI-6

Goal. Review LSO control per LSO NATOPS for FCLP operations.

Requirement. IAW VMAT-203 IUT FSG.

e. Basic Instructor Pilot Training. (8 Events/11.0 Hours).

SIUT-550 1.5 E WST/NWST/RNWST S

Goal. Practice normal procedures.

Requirement. IAW VMAT-203 IUT FSG.

SIUT-551 1.5 E WST/NWST/RNWST S

Goal. Review normal and emergency procedures.

Requirement. IAW VMAT-203 IUT FSG.

IUT-552 1.3 E 1 TAV-8B A

Goal. Introduce normal procedures from the rear seat of the TAV-8B.

Requirement. IAW VMAT-203 IUT FSG.

IUT-553 1.3 E 1 TAV-8B A

Goal. Review normal procedures from the rear seat of the TAV-8B.

Requirement. IAW VMAT-203 IUT FSG.

SIUT-554 1.5 E WST/NWST/RNWST S

Goal. Introduce simulator instructional techniques.

Requirement. IAW VMAT-203 IUT FSG.

IUT-555 1.3 E 2 TAV-8B A

Goal. Introduce basic and tactical formation as lead.

Requirement. IAW VMAT-203 IUT FSG.

IUT-556 1.3 E 4 TAV-8B A

Goal. Introduce division formation.

Requirement. IAW VMAT-203 IUT FSG.

IUT-557 1.3 E 4 TAV-8B A

Goal. Review division formation as lead.

Requirement. IAW VMAT-203 IUT FSG.

f. Aerial Refueling Stage Instructor Pilot. (1 Event/1.3 Hours).

IUT-558 1.3 E 1 TAV-8B / 1 AV-8B A

Goal. Monitor an aerial refueling sortie.

Requirement. IAW VMAT-203 IUT FSG.

g. Threat Counter-Tactics Stage Instructor Pilot. (2 Events/1.6 Hours)

SIUT-560 1.5 E NWST/RNWST S

Goal. Review threat countertactics.

Requirement. IAW VMAT-203 IUT FSG.

IUT-561 1.1 E 1 AV-8B/1 TAV-8B A

Goal. Introduce threat countertactics chase.

Requirement. IAW VMAT-203 IUT FSG.

h. Basic Air-to-Surface Stage Instructor Pilot. (3 Events/4.1 Hours)

SIUT-562 1.5 E WST/NWST/RNWST S

Goal. Review high and low angle dive deliveries.

Requirement. IAW VMAT-203 IUT FSG.

SIUT-563 1.5 E WST/NWST/RNWST S

Goal. Review transition profiles.

Requirement. IAW VMAT-203 IUT FSG.

IUT-564 1.1 E 2 AV-8B A

Goal. Review high and low angle dive deliveries.

Requirement. IAW VMAT-203 IUT FSG.

i. Mechanics Stage Instructor Pilot. (2 Events/2.2 Hours).

IUT-565 1.1 E 2 AV-8B A

Goal. Review target area tactics.

Requirement. IAW VMAT-203 IUT FSG.

IUT-566 1.1 E 2 AV-8B A

Goal. Review TPOD attacks as lead.

Requirement. IAW VMAT-203 IUT FSG.

j. CAS Stage Instructor Pilot. (3 Events/3.7 Hours).

SIUT-567 1.5 E WST/NWST/RNWST S

Goal. Monitor medium altitude CAS simulator.

Requirement. IAW VMAT-203 IUT FSG.

IUT-568 1.1 E 1 TAV-8B A

Goal. Review CAS as SCAR.

Requirement. IAW VMAT-203 IUT FSG.

IUT-569 1.1 E 1 TAV-8B/1 AV-8B A

Goal. Monitor low altitude CAS sortie from rear seat.

Requirement. IAW VMAT-203 IUT FSG.

k. Familiarization Stage Instructor Pilot. (6 Events/8.4 Hours).

IUT-571 1.3 E 1 TAV-8B A

Goal. Introduce FAM stage maneuvers.

Requirement. IAW VMAT-203 IUT FSG.

IUT-572 1.3 E 1 TAV-8B A

Goal. Practice FAM stage maneuvers.

Requirement. IAW VMAT-203 IUT FSG.

SIUT-573 1.5 E WST/NWST/RNWST S

Goal. Review FAM stage maneuvers and dangerous errors.

Requirement. IAW VMAT-203 IUT FSG.

SIUT-574 1.5 E WST/NWST/RNWST S

Goal. Introduce instrument procedures in the FAM stage.

Requirement. IAW VMAT-203 IUT FSG.

IUT-575 1.3 E 1 TAV-8B A

Goal. Review instrument procedures in the FAM stage.

Requirement. IAW VMAT-203 IUT FSG.

SIUT-576 1.5 E WST/NWST/RNWST S

Goal. Monitor early stage FAM simulator.

Requirement. IAW VMAT-203 IUT FSG.

SIUT-577 1.5 E WST/NWST/RNWST S

Goal. Review FAM stage maneuvers and dangerous errors.

Requirement. IAW VMAT-203 IUT FSG.

l. Night Systems Familiarization Instructor Pilot. (3 Events/3.9 Hours).

IUT-580 1.3 E 1 TAV-8B A NS

Goal. Introduce Night Systems stage maneuvers.

Requirement. IAW VMAT-203 IUT FSG.

IUT-581 1.3 E 2 TAV-8B A NS

Goal. Monitor Night Systems formation maneuvers.

Requirement. IAW VMAT-203 IUT FSG.

IUT-582 1.3 E 2 TAV-8B A NS

Goal. Introduce Night Systems formation maneuvers.

Requirement. IAW VMAT-203 IUT FSG.

m. Advanced Aircraft Handling Instructor Pilot. (3 Events/3.7 Hours).

SIUT-583 1.5 E WST/NWST/RNWST S

Goal. Monitor advanced aircraft handling simulator.

Requirement. IAW VMAT-203 IUT FSG.

IUT-584 1.1 E 1 TAV-8B / 1 AV-8B A

Goal. Introduce advanced aircraft handling chase.

Requirement. IAW VMAT-203 IUT FSG.

IUT-585 1.1 E 1 TAV-8B A

Goal. Review advanced aircraft handling maneuvers.

Requirement. IAW VMAT-203 IUT FSG.

n. Air-to-Air Stage Instructor Pilot. (4 Events/4.8 hours).

SIUT-586 1.5 E WST/NWST/RNWST S

Goal. Monitor TVC simulator.

Requirement. IAW VMAT-203 IUT FSG.

IUT-587 1.1 E 2 AV-8B A

Goal. Review TVC and BFM maneuvers.

Requirement. IAW VMAT-203 IUT FSG.

IUT-588 1.1 E 1 TAV-8B/1 AV-8B A

Goal. Chase TVC maneuvers.

Requirement. IAW VMAT-203 IUT FSG.

IUT-589 1.1 E 2 AV-8B A

Goal. Review 1v1 BFM.

Requirement. IAW VMAT-203 IUT FSG.

o. Intercept Stage Instructor Pilot. (3 Events/4.3 hours).

SIUT-590 1.5 E MTT S

Goal. Monitor A/A Radar Intercept sortie in MTT.

Requirement. IAW VMAT-203 IUT FSG.

SIUT-591 1.5 E RNWST S

Goal. Introduce A/A Radar Intercept sortie.

Requirement. IAW VMAT-203 IUT FSG.

IUT-592 1.3 E 2 AV-8B A

Goal. Monitor as RTO an A/A Radar Intercept sortie from TACTS range.

Requirement. IAW VMAT-203 IUT FSG.

IUT-593 1.3 E 2 AV-8B A

Goal. Review A/A Radar Intercept sortie.

Requirement. IAW VMAT-203 IUT FSG.

p. Forward Based Operations Stage Instructor Pilot. (1 Event/1.5 hours).

SIUT-595 1.5 E WST/NWST/RNWST S

Goal. Monitor FBO simulator.

Requirement. IAW VMAT-203 IUT FSG.

q. NATOPS Check Instructor Pilot. (1 Event/1.5 hours).

SIUT-599 1.5 E WST/NWST/RNWST S

Goal. Fly NATOPS check with Program/Model manager.

Requirement. IAW VMAT-203 IUT FSG.

150. REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS TRACKING CODES

1. Requirements

a. Purpose. Track requirements outlined in the AV-8B NATOPS and OPNAVINST 3710.7.

b. General. This section enables squadrons to document and track annual NATOPS, instrument evaluations, and flight leadership currency.

c. Ground/Academic Training. None.

d. Flight and Simulator Event Training. (6 Events, 3.0 Hours).

REQ-600 1.5 E R Tracking S/A (NS)

Goal. Complete annual NATOPS evaluation.

Requirement. Perform annual NATOPS check per AV-8B NATOPS and OPNAVINST 3710.

Performance Standards
Execute all procedures IAW AV-8B NATOPS and OPNAVINST 3710.

REQ-601 1.5 E R Tracking S/A (NS)

Goal. Complete annual instrument evaluation.

Requirement. Perform annual instrument check per OPNAVINST 3710.

Performance Standards
Execute all procedures IAW AV-8B NATOPS and OPNAVINST 3710.

REQ-602 1.5 E R Tracking S/A (NS)

Goal. Complete CRM training.

Requirement. Satisfactory completion of CRM training.

Performance Standards
Per syllabus description.

REQ-603 1.3 R Tracking 2+ AV-8B (NS)

Goal. Sortie flown as section leader.

Requirement. Fly sortie as a section leader.

Performance Standards
Per sortie description.

Prerequisite. Per sortie description.

Ordnance. Per sortie description.

External Syllabus Support. Per sortie description.

REQ-604 1.3 R Tracking 4+ AV-8B (NS)

Goal. Sortie flown as division leader.

Requirement. Fly sortie as a division leader.

Performance Standards
Per sortie description.

Prerequisite. Per sortie description.

Ordnance. Per sortie description.

External Syllabus Support. Per sortie description.

REQ-605 1.3 R Tracking 4+ AV-8B (NS)

Goal. Sortie flown as mission commander.

Requirement. Fly sortie as a mission commander.

Performance Standards
Per sortie description.

Prerequisite. Per sortie description.

Ordnance. Per sortie description.

External Syllabus Support. Per sortie description.

2. Qualifications

a. Purpose. Enable squadrons to document completion of flight qualifications.

b. General. Qualification codes do not constitute flight or simulator events in themselves; rather, they will be logged upon completion of the applicable 200, 300 or 400-level syllabus per the prerequisites listed below. If proficiency is not maintained in at least one of the prerequisite codes, then qualification will have to be regained by flying the appropriate R coded sorties.

c. Ground/Academic Training. Per the applicable syllabus.

d. Flight and Simulator Event Training. (9 Events, 0.0 Hours).

QUAL-610 0.0 Tracking

Goal. Complete AAR qualification.

Requirement. Satisfactory completion of AAR qualification syllabus.

Performance Standards
Per syllabus description.

Prerequisite. AAR-210, AAR-211.

QUAL-611 0.0 Tracking

Goal. Complete day LAT qualification.

Requirement. Satisfactory completion of day LAT qualification syllabus.

Performance Standards
Per syllabus description.

Prerequisite. SLAT-220 thru LAT-223, LAT-430 and LAT-431.

QUAL-612 0.0 Tracking

Goal. Complete NSQ HI qualification.

Requirement. Satisfactory completion of NSQ HI syllabus.

Performance Standards
Per syllabus description.

Prerequisite. SNS-250 thru NS-255.

QUAL-613 0.0 Tracking

Goal. Complete ACM qualification.

Requirement. Satisfactory completion of ACM qualification syllabus.

Performance Standards
Per syllabus description.

Prerequisite. SAA-260 thru AA-274.

QUAL-614 0.0 Tracking

Goal. Complete day CQ qualification.

Requirement. Satisfactory completion of day CQ qualification syllabus.

Performance Standards
Per syllabus description.

Prerequisite. SCQ-410, CQ-411.

QUAL-615 0.0 Tracking

Goal. Complete night CQ qualification.

Requirement. Satisfactory completion of night CQ qualification syllabus.

Performance Standards
Per syllabus description.

Prerequisite. SCQ-412 thru CQ-415.

QUAL-616 0.0 Tracking

Goal. Complete NSQ Low qualification.

Requirement. Satisfactory completion of NSQ Low syllabus.

Performance Standards
Per syllabus description.

Prerequisite. SLAT-432, SLAT-433, LAT-434 thru LAT-437.

QUAL-617 0.0 Tracking

Goal. Complete FAC(A) qualification.

Requirement. SFAC(A)-480 thru FAC(A)-490.

Performance Standards
Per syllabus description.

QUAL-618 0.0 Tracking

Goal. Demo Pilot qualification.

Requirement. Satisfactory completion of Demo Pilot qualification requirements.

Performance Standards
Per syllabus description.

151. SECTION LEADER STANDARDIZATION AND DESIGNATION SORTIES (DESG)

1. Section Leader

a. Purpose. Prepare and evaluate a prospective flight lead’s ability to plan, brief and lead a combat mission as a section lead.

b. General

(1) Section Leaders Under Training (SLUT) shall conduct the following designation syllabus in order to develop flight leadership. Completion of this syllabus meets the requirements to be designated a section leader. At the discretion of the squadron commanding officer, a letter designating the pilot a section leader shall be placed in the NATOPS jacket and APR.

(2) The designation syllabus shall be supervised by a division lead or syllabus specified instructor.

(3) The Refresher POI will be tailored by the commanding officer based on experience level and time out of cockpit. It is assumed the Refresher pilot has the prerequisite academic knowledge base and familiarity with SOPs to conduct the designation syllabus.

c. Prerequisites

(1) 200 hours in model.

(2) 200-level and 300-level complete.

(3) Complete a Section Leader work-up syllabus that, at a minimum, mirrors the designation sorties and requirements.

(4) Receive a passing grade on the MAG standardized SLUT exam that covers 200-300 academics.

d. Requirements

(1) A SLUT shall complete the following items during the course of the Section Leader designation syllabus:

(a) Three events in the syllabus shall be conducted night.

(b) Conduct the following departures:

1. Section stream STO

2. Section CTO

3. Section RADAR trail

4. Section SID.

(c) Conduct the following recoveries:

1. Section VFR overhead.

2. Section VFR straight-in.

3. Section PAR/TACAN to actual or simulated circling minimums. PUI will configure the section for landing with the intent to land both aircraft upon break-out of actual/simulated IMC conditions.

4. Simulated NORDO recovery.

5. Simulated hung ordnance recovery.

(d) Three events shall be flown with the TPOD.

(e) At a minimum, 3 events shall carry ordnance.

(f) One event will be flown in conjunction with RF/IR emitters on a TACTS or EW range.

(2) The following shall be flown with an standardized flight instructor external to the squadron:

(a) SDESG-621.

(b) One of the following events: DESIG 624, 625, 626, 627.

(3) The designation syllabus does not have to be flown in order. The last event in the phase will serve as the check flight. The check flight shall be 1 of the following events: DESIG-624, 625, 626, 627.

e. Ground/Academic Training

(1) Readings

(a) AV-8B NATOPS Manual (A1-AV8BB-NFM-000)

1. Chapter 6, Flight Preparation

2. Chapter 21, Extreme Weather Operation

3. Chapter 31, Aircrew Coordination

(b) Air NTTP 3-22.1-AV8B

1. Chapter 1, Introduction

2. Review Chapter 3, Flight Administrative Procedures

3. Chapter 14, Specialized Air-to-Surface Tasks

4. Chapter 21, Specialized Air-to-Air Missions

(c) AV-8B TACSOP

1. Specialized Air-to-Surface Operations

2. Specialized Air-to-Air Operations

(2) Lectures. Delivered by a WTI.

(a) Flight briefing and debriefing.

(b) AV-8B T+R Manual and Training Management.

(3) Chalk Talks/Practical Application. None.

(4) Exams. None.

f. Flight and Simulator Event Training. (8 Events, 9.8 Hours).

SDESG-620 1.0 E NWST/RNWST S (NS)

Goal. Demonstrate proficiency instructing a medium altitude threat countertactics simulator. Evaluate basic instruction ability, knowledge of threat systems and threat countertactics.

Requirement. Plan, brief, execute and debrief a medium altitude threat countertactics simulator. Plan and brief shall emphasize weaponeering, air-to-surface timeline, threat reaction matrix, preemptive and reactive threat countertactics, and standardized communications. Threats shall include a range known SA-6/11, range unknown Roland II and ZSU-23-4. The SLUT shall run the simulator console with the WTI/CO mentoring the event.

Performance Standards
Plan, brief, execute and debrief IAW AV-8B TACSOP and Air NTTP 3–22.1-AV8B.
Correct weaponeering utilizing WARP, current flight clearances, and AV-8B NATIP.
Detailed air-to-surface timeline brief.
Detailed threat countertactics brief.
Constructive inflight instruction.
Accurate sortie reconstruction.
Captures lessons learned.

Prerequisite. See phase description.

Ordnance. TPOD, 2 MK-83 w/DSU-33, 1 CBU-99/100, ALQ-164, SEL-2.

SDESG-621 1.0 E NWST/RNWST S (NS)

Goal. Demonstrate proficiency weaponeering PGM, optimizing aircraft sensors and target area tactics execution. Evaluate PGM and applicable employment systems knowledge.

Requirement. Plan, brief, execute and debrief a air-to-surface target area tactics simulator. Execute 2 LGB attack (1 self-lase and 1 buddy lase) and 1 non-preplanned JDAM attack. Threats shall include range unknown SA-8 and 2S6. This event is flown with a MAG designated Standardized Flight Instructor.

Performance Standards
Plan, brief, execute and debrief IAW AV-8B TACSOP and Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing PMPT, JMPS CUPC, JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Detailed air-to-surface timeline brief.
Detailed threat countertactics brief.
Proper use of TPOD to designate targets and generate coordinates.
Comply with Tactical Abort Parameters.
Valid weapon release IAW Air NTTP 3-22.1-AV8B with accurate employment validation.
Correct ALSA Communication Brevity.

Prerequisite. DESG-620.

Ordnance. TPOD, 2 GBU-12/16, 1 GBU-32/38, SEL-2.

DESG-622 1.3 E 2 AV-8B A (NS)

Goal. Demonstrate proficiency weaponeering PGM, optimizing aircraft sensors and leading a target area tactics flight.

Requirement. Plan, brief, execute and debrief an air-to-surface target area tactics flight. Execute 2 actual or simulated LGB attack (1 self-lase and 1 buddy lase) and 1 actual or simulated non-preplanned JDAM attack. Emphasize basic flight leadership, administrative procedures, and tactical administrative procedures. Evaluate PGM and applicable employment systems knowledge.

Performance Standards
Plan, brief, execute and debrief IAW AV-8B TACSOP and Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing PMPT, JMPS CUPC, JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Detailed air-to-surface timeline brief.
Detailed threat countertactics brief.
Proper use of TPOD to designate targets and generate coordinates.
Comply with Tactical Abort Parameters.
Valid weapon release IAW Air NTTP 3-22.1-AV8B with accurate employment validation.
Correct ALSA Communication Brevity.

Prerequisite. DESG-620.

Ordnance. TPOD, 2 GBU-12/LGTR, 1 GBU-32/38 and expendables.

Range Requirement. RSTD, WISS, HE or INERT, JDAM, LGB.

DESG-623 1.3 E 2 AV-8B A

Goal. Demonstrate proficiency leading a 1 V 1 BFM flight.

Requirement. Plan, brief, lead and debrief a 1 V 1 BFM flight. Execute 1 heat-to-guns drill, 1 snap-shot drill, 1 3,000-foot offensive perch, 1 6,000-foot defensive perch, and 1 butterfly or abeam neutral engagement. Target wingman is ACM qualified. Emphasize ACM Training Rules application, air-to-air weapon employment, system knowledge, basic flight leadership, administrative procedures, and tactical administrative procedures. This event will be flown with an ACTI.

Performance Standards
Adhere to ACM training rules.
Plan, brief, execute and debrief IAW AV-8B TACSOP and Air NTTP 3-22.1-AV8B.
Assertive flight leadership managing airspace, and engagement set-ups.
Accurate reconstruction and analysis of engagements.
100% valid shots with accurate shot validation.
Correct ALSA Communication Brevity.

Prerequisite. SDESG-621.

Ordnance. CATM-9M-8, TACTS, and expendables.

Range Requirement. AA, TACTS, EXP.

DESG-624 1.3 E 2 AV-8B A (NS)

Goal. Demonstrate proficiency leading CAS under type 1 terminal attack control.

Requirement. Plan, brief, execute and debrief CAS under type 1 terminal attack control. Execute 2 attacks. Emphasize JPub 3-09.3 procedures, systems management, target area tactics, reactive weaponeering, threat countertactics and standardized communications. Evaluate combat flight leadership and tactical decision-making.

Performance Standards
Execute IAW with JPub 3-09.3.
Plan, brief, execute and debrief IAW Air NTTP 3-22.1-AV8B.
Accurate brief of fire support coordination measures.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B with accurate employment validation.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.
TOT +/- 15 seconds.

Prerequisite. SDESG-621.

Ordnance. TPOD, PGM or Free fall ordnance and expendables.

Range Requirements. RSTD, JCAS, JDAM, LGB, EXP.

External Syllabus Support. JTAC.

DESG-625 1.3 E 2 AV-8B A (NS)

Goal. Demonstrate proficiency leading CAS under type 2 and 3 terminal attack control.

Requirement. Plan, brief, execute and debrief CAS under type 2 and 3 terminal attack control employing PGM. Execute 2 attacks. Emphasize JPub 3-09.3 procedures, systems management, PGM employment target area tactics, reactive weaponeering, threat countertactics and standardized communications. Evaluate combat flight leadership and tactical decision-making.

Performance Standards
Execute IAW with JPub 3-09.3.
Plan, brief, execute and debrief IAW Air NTTP 3-22.1-AV8B.
Accurate brief of fire support coordination measures.
Execute briefed air-to-surface timeline.
Execute briefed surface-to-air threat countertactics.
Valid weapon release IAW Air NTTP 3-22.1-AV8B with accurate

employment validation.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.
TOT +/- 15 seconds.

Prerequisite. SDESG-621.

Ordnance. TPOD, PGM and expendables.

Range Requirements. RSTD, JCAS, JDAM, LGB, EXP.

External Syllabus Support. JTAC.

DESG-626 1.3 E 2 AV-8B A (NS)

Goal. Demonstrate proficiency leading SCAR.

Requirement. Plan, brief, execute and debrief SCAR. Coordinate with a minimum of 1 external section to conduct a minimum of 2 target attacks. Provide a MISREP to the MACCS (actual or simulated). Conduct a SCAR-to-SCAR handover (actual or simulated). Emphasize systems management, target PID, airspace deconfliction, MACCS integration, threat countertactics and standardized communications. Evaluate combat flight leadership and tactical decision-making.

Performance Standards
Execute IAW Air NTTP 3-22.1-AV8B.
Brief a RAGM and ROE.
Execute briefed air-to-surface timeline and RAGM.
Execute briefed surface-to-air threat countertactics.
Locate and prioritize target sets IAW briefed commander's guidance.
Accurate target coordinate generation, communication, and marking.
Valid weapon release IAW Air NTTP 3-22.1-AV8B with accurate employment validation.
Comply with Tactical Abort Parameters.
Weapon impacts within CEP.
Correct ALSA Communication Brevity.

Prerequisite. SDESG-621.

Ordnance. TPOD, PGM or free fall ordnance and expendables.

Range Requirements. RSTD, COMPLEX, LGB, JDAM, HE or INERT, EXP.

External Syllabus Support. Minimum 1 section of AR assets.

DESG-627 1.3 E 2 AV-8B A

Goal. Demonstrate proficiency leading DCA point defense. This event will be flown with an ACTI.

Requirement. Plan, brief, execute and debrief 2 V X DCA. The scenario shall include an unknown number of Level 3, Category 2 adversaries with PHID required, fighter weapons control status is tight with PHID criteria set by prospective flight lead according to the theater of operation. Emphasize ACM training rule adherence, air-to-air timeline construction and execution, and standardized communications. Target wingman is ACM qualified. Evaluate combat flight leadership and tactical decision-making.

Performance Standards
Adhere to ACM training rules.
Plan, brief, execute and debrief IAW Air NTTP 3-22.1-AV8B.
Adhere to air-to-air timeline, contracts, and criteria.
Execute briefed air-to-air threat countertactics gameplan.
Adhere to briefed air-air mission timeline.
Accurate reconstruction and analysis of engagements.
100% valid shots with accurate shot validation.
Correct ALSA communication brevity.

Prerequisite. DESG-621E.

Ordnance. CATM-9M-8, TACTS and expendables.

Range Requirements. TACTS, AA, EXP.

External Support. RADAR adversaries, AIC, TACTS range.

152. DIVISION LEADER STANDARDIZATION AND DESIGNATION SORTIES (DESG)

1. Division Leader

a. Purpose. Prepare and evaluate a prospective flight lead's ability to plan, brief and lead an combat mission as a division lead.

b. General

(1) Division Leaders Under Training (DLUT) shall conduct the following designation syllabus in order to develop flight leadership. Completion of the DESG syllabus meets the requirements to be designated a division leader. At the discretion of the squadron commanding officer, a letter designating the pilot a division leader shall be placed in the NATOPS jacket and APR.

(2) The Refresher POI will be tailored by the Commanding Officer based on experience level and time out of cockpit. It is assumed the Refresher pilot has the prerequisite academic knowledge base and familiarity with SOPs to conduct the designation syllabus.

(3) A Mission Commander, WTI, or specified instructor shall instruct all events.

c. Prerequisites

(1) 400 hours in model.

(2) Designated Section Leader.

(3) Complete a Division Leader work-up syllabus that, at a minimum, mirrors the designation sorties and requirements.

(4) Receive a passing grade on the MAG standardized DLUT exam that covers division administration and tactical employment.

d. Requirements

(1) DLUT shall complete the following items during the course of the Division Lead designation syllabus:

(a) One event in syllabus shall be conducted night.

(b) Conduct the following departures:

1. Division stream STO.

2. Division RADAR trail.

(c) Conduct the following recoveries:

1. Division overhead.

2. Division straight-in.

(d) At a minimum, 1 event shall carry ordnance.

(e) One event will be flown in conjunction with RF/IR emitters on a TACTS or EW range.

(f) One event shall include AAR.

(2) One event shall be flown with a standardized flight lead external from the squadron.

(3) The designation syllabus does not have to be flown in order. The last sortie shall constitute the check ride. It shall be either DESG-632 or DESG-633.

e. Ground/Academic Training.

(1) Readings. Air NTTP 3-22.1-AV8B. Chapter 23, Mission Contingency Planning

(2) Lectures. None.

(3) Chalk Talk/Practical Application. None.

(4) Exams. None.

f. Flight and Simulator Event Training. (4 Events, 5.2 Hours).

DESG-630 1.3 E 3+ AV-8B A (NS)

Goal. Demonstrate proficiency executing division target area tactics.

Requirement. Plan, brief, execute and debrief a division target area tactics flight. Execute 2 division attacks (1 visual attack and 1 standoff attack). Emphasize basic flight

leadership, division flight administration, tactical administration, mutual support, and deconfliction. Evaluate division air-to-surface fundamentals.

Performance Standards
Plan, brief, execute and debrief IAW AV-8B TACSOP and Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing PMPT, JMPS CUPC, JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Detailed air-to-surface timeline brief.
Detailed threat countertactics brief.
Comply with Tactical Abort Parameters.
Valid weapon release IAW Air NTTP 3-22.1-AV8B with accurate employment validation.
Correct ALSA Communication Brevity.

Ordnance. TPOD, PGM or free fall ordnance and expendables.

Range Requirements. RSTD, Target, LSR, INERT, HE, LGB, JDAM.

DESG-631 1.3 E 3+ AV-8B A (NS)

Goal. Demonstrate proficiency executing division AR.

Requirement. Plan, brief, execute and debrief division AR. Locate and PID targets. Execute 2 division attacks (1 visual attack and 1 standoff attack). Provide a MISREP to the MACCS (actual or simulated). Emphasize target PID, airspace deconfliction, MACCS integration, threat countertactics and standardized communications. Evaluate combat flight leadership and tactical decision making.

Performance Standards
Plan, brief, execute and debrief IAW AV-8B TACSOP and Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing PMPT, JMPS CUPC, JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Detailed air-to-surface timeline brief.
Detailed threat countertactics brief.
Comply with Tactical Abort Parameters.
Valid weapon release IAW Air NTTP 3-22.1-AV8B with accurate employment validation.
Correct ALSA Communication Brevity.

Ordnance. TPOD, PGM or Free fall ordnance and expendables.

Range Requirements. RSTD, TGT, WISS, LGB, JDAM, HE or INERT.

DESG-632 1.3 E 3+ AV-8B A

Goal. Demonstrate proficiency executing division day AI.

Requirement. Plan, brief, execute and debrief a division AI during the day at medium altitude. Scenario shall include a surface-to-air and air-to-air threat. Evaluate combat flight leadership and tactical decision making. Emphasize target

area tactics, threat countertactics and standardized communications.

Performance Standards
Plan, brief, execute and debrief IAW AV-8B TACSOP and Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing PMPT, JMPS CUPC, JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Detailed air-to-surface timeline brief.
Detailed threat countertactics brief.
Comply with Tactical Abort Parameters.
Valid weapon release IAW Air NTTP 3-22.1-AV8B with accurate employment validation.
Correct ALSA Communication Brevity.

Ordnance. TPOD, TACTS, PGM or free fall ordnance and expendables.

Range Requirements. RSTD, TACTS, EW, TGT, LGB, JDAM, EXP.

DESG-633 1.3 E 3+ AV-8B A NS

Goal. Demonstrate proficiency executing division AI at night.

Requirement. Plan, brief, execute and debrief a division AI during the day at medium altitude. Scenario shall include a surface-to-air and air-to-air threat. Evaluate combat flight leadership and tactical decision making. Emphasize target area tactics, threat countertactics and standardized communications.

Performance Standards
Plan, brief, execute and debrief IAW AV-8B TACSOP and Air NTTP 3-22.1-AV8B.
Correct weaponeering utilizing PMPT, JMPS CUPC, JAWS, WARP, current flight clearances, and AV-8B NATIP publications.
Detailed air-to-surface timeline brief.
Detailed threat countertactics brief.
Comply with Tactical Abort Parameters.
Valid weapon release IAW Air NTTP 3-22.1-AV8B with accurate employment validation.
Correct ALSA Communication Brevity.

Ordnance. TPOD, PGM or Free fall ordnance and expendables.

Range Requirements. RSTD, Target, LSR, inert, HE or JDAM range.

153. MISSION COMMANDER STANDARDIZATION AND DESIGNATION SORTIES (DESG)

1. Mission Commander

a. Purpose. Evaluate a prospective mission commander’s ability to plan, brief and lead a combat mission as the mission commander.

b. General

(1) Completion of the syllabus meets the requirements to be designated as mission commander. At the discretion of the squadron commanding officer, a letter designating the pilot as mission commander shall be placed in the NATOPS jacket and APR.

(2) The Refresher POI will be tailored by the commanding officer based on experience level and time out of cockpit. It is assumed the Refresher pilot has the prerequisite academic knowledge base and familiarity with SOPs to conduct the designation syllabus.

(3) A Mission Commander shall instruct all events.

c. Prerequisites

(1) Designated Division Lead.

(2) Mission Commanders Under Training (MCUT) shall complete either LFE 470 or LFE 471 as the strike element lead.

d. Ground/Academic Training.

(1) Readings. None.

(2) Lectures. Review the following AV-8B Courseware lectures:

(a) Strike Mission Commander, Part 1

(b) Strike Mission Commander, Part 2

(3) Chalk Talk/Practical Application. None.

(4) Exams. None.

e. Flight and Simulator Event Training. (2 Events, 2.6 Hours).

DESG-636 2.0 4+ AV-8B A (NS)

Goal. Lead a day or night AI LFE as the mission commander.

Requirement. As part of a division, lead an AI LFE. The mission shall be supported with command and control assets, SEAD, EA, ES, AAR, and OCA assets. Scenario per WTI guidance. Emphasize flight leadership and tactical decision making.

Performance Standards
Planning, briefing, execution, and debrief IAW the MAWTS-1 Strike Planning Guide.
Develop a sound tactical game plan based on the scenario.
Coordinate and deconflict multiple elements.
Adhere to all applicable Rules of Conduct and Training Rules.
Adhere to air-to-surface and/or air-to-air timelines.
Adhere to surface-to-air and/or air-to-air threat countertactics gameplans.
100% valid air-to-surface and/or air-to-air weapon releases.
Correct ALSA Communication Brevity.

Ordnance. Per scenario.

Range Requirements. TACTS, WISS, JDAM or LGB, EXP, COMPLEX.

External Syllabus Support. Adversaries, Tanker, Blue air, GCI/AIC.

DESG-637 2.0 E 4 AV-8B A (NS)

Goal. Lead a day or night large force SCAR package as the mission commander.

Requirement. SCAR mission commander evaluation requires the MCUT to act as the SCAR for a minimum of 2 dissimilar AR elements in a confined airspace in a medium threat scenario with active RF SAM emitters. Scenario per WTI guidance. Emphasize flight leadership and tactical decision making.

Performance Standards
Planning, briefing, execution, and debrief IAW the MAWTS-1 Strike Planning Guide.
Develop a sound tactical game plan based on the scenario.
Coordinate and deconflict multiple elements.
Adhere to all applicable Rules of Conduct and Training Rules.
Adhere to air-to-surface and/or air-to-air timelines.
Adhere to surface-to-air and/or air-to-air threat countertactics gameplans.
100% valid air-to-surface and/or air-to-air weapon releases.
Correct ALSA Communication Brevity.

Ordnance. Per scenario.

Range Requirements. TACTS, WISS, JDAM or LGB, EXP, COMPLEX.

External Syllabus Support. Per scenario.

154. POST MAINTENANCE CHECK FLIGHT (PMCF) PILOT

1. PMCF Pilot

a. Purpose. Evaluate a pilot’s ability to execute a PMCF.

b. General. Completion of the syllabus meets the requirements to be designated a functional check pilot. At the discretion of the squadron commanding officer, a letter designating the pilot as a functional check pilot shall be placed in the NATOPS jacket and APR.

c. Ground/Academic Training. Per MAG order.

d. Flight and Simulator Event Training. (2 Events, 3.0 Hours).

DESIG-640 1.5 E WST/NWST/RNWST S

Goal. Functional Check Flight (FCF) workup sortie.

Requirement. Complete an FCF profile in the simulator.

Performance Standards
Profile completion per appropriate card.

Prerequisite. Per MAG order.

DESIG-641 1.5 1 AV-8B A

Goal. Conduct a FCF.

Requirement. Complete an FCF profile. Initial event shall be in a FMC AV-8B.

Performance Standards
Profile completion per appropriate card.

Prerequisite. Per MAG order, FAM-202.

155. AV-8B AIRSHOW DEMONSTRATION PILOT (Demo Pilot)

1. Demo Pilot

a. Purpose. To evaluate a prospective demonstration pilot's ability to conduct air show demonstration.

b. General. Completion of the syllabus meets the requirements to be designated an AV-8B Demo Pilot. At the discretion of the squadron commanding officer, a letter designating the pilot an AV-8B Demo Pilot shall be placed in the NATOPS jacket and APR.

c. Prerequisites. Per MC and MAG order. Successful completion of stage constitutes LAT qualification, which shall be recorded as QUAL-618.

d. Academic Training. Per MC and MAG order.

e. Flight and Simulator Event Training. (2 Events, 3.0 Hours).

DESIG-642 1.5 E WST/NWST/RNWST S

Goal. Demo Pilot workup sortie.

Requirement. Complete a Level III air show demonstration profile.

Performance Standards
Conducts all maneuvers correctly.

Prerequisite. Per MC and MAG order.

DESIG-643 .8 1 AV-8B A

Goal. Demonstration flight. Initial event shall be monitored by MAG Commanding Officer or his designated representative.

Requirement. Complete a Level III air show demonstration profile.

Performance Standards
Conducts all maneuvers correctly.

Prerequisite. Per MC and MAG order, FAM-202.

156. TRACKING CODES

a. Purpose. Track currency in various evolutions via SARA.

b. General. Tracking codes do not constitute flight or simulator. They are logged concurrent with another code to delineate position in the flight, ordnance expended, or specifics of an event completed (i.e. FBO cal site operations).

c. Ground/Academic Training. NA.

d. Flight and Simulator Event Training. (48 Events, 0.0 Hours).

TRK-650 0.0 Tracking 1+ AV-8B (NS)

Goal. Conduct strategic tanking.

Requirement. Conduct aerial refueling from a strategic tanking platform.

Performance Standards
As outlined in the Air Refueling NATOPS.

Prerequisite. AAR-210 (AAR-211 if at night).

External Syllabus Support. Strategic tanker.

TRK-651 0.0 Tracking 1+ AV-8B (NS)

Goal. Employ TPOD.

Requirement. Tactically employ the TPOD.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. TPOD.

TRK-652 0.0 Tracking 1+ AV-8B (NS)

Goal. Employ ALQ-164.

Requirement. Tactically employ the ALQ-164.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. ALQ-164.

TRK-653 0.0 Tracking 1+ AV-8B (NS)

Goal. Employ ALE-39.

Requirement. Tactically employ the ALE-39 with expendables.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. 180 expendables.

TRK-654 0.0 Tracking 1+ AV-8B (NS)

Goal. Fire GAU-12.

Requirement. Tactically employ GAU-12.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. 300 Rnds HE or TP.

TRK-655 0.0 Tracking 1+ AV-8B (NS)

Goal. Expend Mk-76, BDU-48, BDU-45 or Mk-83I ordnance.

Requirement. Tactically employ Mk-76, BDU-48, BDU-45 or Mk-83I ordnance.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. Mk-76, BDU-48, BDU-45 or Mk-83I ordnance.

TRK-656 0.0 Tracking 1+ AV-8B (NS)

Goal. Expend Mk-80 series HE ordnance.

Requirement. Tactically employ Mk-80 series HE ordnance.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. Mk-80 series HE ordnance.

TRK-657 0.0 Tracking 1+ AV-8B (NS)

Goal. Expend CBU-99/100 or Mk-20 ordnance.

Requirement. Tactically employ cluster munitions.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. CBU-99/100 or Mk-20.

TRK-658 0.0 Tracking 1+ AV-8B (NS)

Goal. Expend Mk-77 fire bomb.

Requirement. Tactically employ Mk-77 fire bomb.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. Mk-77.

TRK-659 0.0 Tracking 1+ AV-8B (NS)

Goal. Fire rockets (2.75" or 5").

Requirement. Tactically employ rockets.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. 2.75" or 5" Rockets.

TRK-660 0.0 Tracking 1+ AV-8B (NS)

Goal. Expend LUU-2/LUU-19 parachute flares.

Requirement. Tactically employ LUU-2/19 parachute flares.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. LUU-2 or LUU-19.

TRK-661 0.0 Tracking 1+ AV-8B (NS)

Goal. Employ CAGM-65E LASER Maverick.

Requirement. Tactically employ CAGM-65E.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. CAGM-653.

TRK-662 0.0 Tracking 1+ AV-8B (NS)

Goal. Fire AGM-65E LASER Maverick.

Requirement. Tactically employ LMAV.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. AGM-65E.

TRK-663 0.0 Tracking 1+ AV-8B (NS)

Goal. Employ the LGTR.

Requirement. Tactically employ LGTR.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. LGTR.

TRK-664 0.0 Tracking 1+ AV-8B (NS)

Goal. Expend GBU-12/16 LASER guided munitions.

Requirement. Tactically employ GBU 12/16 LASER guided bomb.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. GBU-12 or GBU-16.

TRK-665 0.0 Tracking 1+ AV-8B (NS)

Goal. Expend GBU-32/38.

Requirement. Tactically employ GBU-32/38.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. GBU-32/38.

TRK-666 0.0 Tracking 1+ AV-8B (NS)

Goal. Air-to-air gunnery.

Requirement. Fire the GAU-12 using the circular dart or banner pattern. VTR debrief required.

Performance Standards
A minimum of 4 passes on the respective target.

Prerequisite. IAW tactical sortie of execution.

Ordnance. 300 Rnds.

External Syllabus Support. Tow aircraft.

TRK-667 0.0 Tracking 1+ AV-8B (NS)

Goal. Fire AIM-9.

Requirement. Tactically employ AIM-9.

Performance Standards. IAW the sortie performance standards.

Prerequisite. IAW tactical sortie of execution.

Ordnance. AIM-9.

External Syllabus Support. Drone or flare aircraft.

TRK-668 0.0 Tracking

Requirement. Range requirement unavailable.

TRK-669 0.0 Tracking

Requirement. Ordnance requirement unavailable.

TRK-670 0.0 Tracking

Requirement. Syllabus support unavailable.

TRK-671 0.0 Tracking

Requirement. Incomplete FAM event.

TRK-672 0.0 Tracking

Requirement. Incomplete AAR event.

TRK-673 0.0 Tracking

Requirement. Incomplete LAT event.

TRK-674 0.0 Tracking

Requirement. Incomplete AS event.

TRK-675 0.0 Tracking

Requirement. Incomplete NS event.

TRK-676 0.0 Tracking

Requirement. Incomplete AA event.

TRK-677 0.0 Tracking

Requirement. Incomplete CAS event.

TRK-678 0.0 Tracking

Requirement. Incomplete AR event.

TRK-679 0.0 Tracking

Requirement. Incomplete SCAR event.

TRK-680 0.0 Tracking

Requirement. Incomplete AAW event.

TRK-681 0.0 Tracking

Requirement. Incomplete AI event.

TRK-682 0.0 Tracking

Requirement. Incomplete FCLP event.

TRK-683 0.0 Tracking

Requirement. Incomplete CQ event.

TRK-684 0.0 Tracking

Requirement. Incomplete FBO event.

TRK-685 0.0 Tracking

Requirement. Incomplete LAT(NS) event.

TRK-686 0.0 Tracking

Requirement. Incomplete ASE event.

TRK-687 0.0 Tracking

Requirement. Incomplete GCE event.

TRK-688 0.0 Tracking

Requirement. Incomplete OAS event.

TRK-689 0.0 Tracking

Requirement. Incomplete NTISR event.

TRK-690 0.0 Tracking

Requirement. Incomplete LFE event.

TRK-691 0.0 Tracking

Requirement. Incomplete FAC(A) event.

TRK-692 0.0 Tracking

Requirement. Incomplete ESC event.

TRK-693 1.0 Tracking 1 AV-8B

Goal. Day CAL site operations.

Requirement. Practice precision V/STOL at a CAL site.

Perform multiple precision VLs and VTOs under LSS control. Proficiency must be demonstrated prior to conducting other missions from a CAL site.

Performance Standards
A minimum of 4 takeoffs and landings are required.

Prerequisite. FAM-202.

External Syllabus Support. Approved CAL site.

TRK-694 1.0 Tracking 1 AV-8B NS

Goal. Night CAL site operations.

Requirement. Repeat TRK-693 at night.

Performance Standards
A minimum of 4 takeoffs and landings are required.

Prerequisite. TRK-693.

External Syllabus Support. Approved CAL site.

TRK-695 1.0 Tracking 1 AV-8B

Goal. Road operations.

Requirement. Practice precision V/STOL at a road. Perform multiple precision RVLs and maximum performance STOs under LSS control.

Performance Standards
A minimum of 4 takeoffs and landings are required.

Prerequisite. FBO-412.

External Syllabus Support. Approved road.

TRK-696 1.0 Tracking 1 AV-8B NS

Goal. Night road operations.

Requirement. Practice precision V/STOL at a road. Perform multiple precision RVLs and maximum performance STOs under LSS control.

Performance Standards
A minimum of 4 takeoffs and landings are required.

Prerequisite. TRK-695, FBO-413.

External Syllabus Support. Approved road.

TRK-697 1.0 Tracking 1 AV-8B

Goal. Grass operations.

Requirement. Practice precision V/STOL at a grass strip. Perform multiple precision RVLs and maximum performance STOs under LSS control.

Performance Standards
A minimum of 4 takeoffs and landings are required.

Prerequisite. FBO-412.

External Syllabus Support. Approved grass strip.

6. Landing Signal Officers (LSO), Landing Site Instructors (LSI) and Landing Sight Supervisors (LSS) Designation and Tracking

a. Purpose. To track the designation and currency of LSOs, LSIs, and LSSs.

b. General. This section enables squadrons to document and track via SARA the designation of pilots as LSOs, LSIs, LSSs and currency intervals between "waiving" periods. The following additional guidance applies:

(1) A pilot must complete the 200 level-Syllabus prior to beginning any workup for LSO or LSS designation.

(2) This Manual, the T&R Program Manual, LSO NATOPS Manual and MAG LSI/LSS Orders define the prerequisites to start LSO/LSS/LSI Under Training syllabus and designation requirements. A pilot should be a designated section lead but this may be waived by the commanding officer.

(3) Currency will be retained for 12 months following the last day of a LSO/LSI/LSS control for each specific designation. If currency is lost, the LSO/LSI/LSS shall attend academic ground school and regain currency as outlined in the above documents. No minimum number of controls is required as long as proficiency is exhibited to the Training LSO/LSS.

(4) Successful completion of all appropriate workup events and designation by the squadron commander are required prior to exercising any designation.

c. Ground/Academic Training. Per LSO NATOPS or MAG LSI/LSS Order.

d. Flight and Simulator Event Training. (14 Events, 0.0 Hours).

DESIG-700 0.0 E Designation

Goal. Day Basic Field LSO.

Requirement. Per LSO NATOPS.

Performance Standards
Per LSO NATOPS.

Prerequisite. Per LSO NATOPS.

External Syllabus Support. FCLP facility.

DESIG-701 0.0 E Designation

Goal. Night Basic Field LSO.

Requirement. Per LSO NATOPS.

Performance Standards
Per LSO NATOPS.

Prerequisite. Per LSO NATOPS.

External Syllabus Support. FCLP facility.

DESIG-702 0.0 E Designation

Goal. Day Basic Ship.

Requirement. Per LSO NATOPS.

Performance Standards
Per LSO NATOPS.

Prerequisite. Per LSO NATOPS.

External Syllabus Support. L-class ship.

DESIG-703 0.0 E Designation

Goal. Night Basic Ship.

Requirement. Per LSO NATOPS.

Performance Standards
Per LSO NATOPS.

Prerequisite. Per LSO NATOPS.

External Syllabus Support. L-class ship.

DESIG-704 0.0 E Designation

Goal. Advanced Day LSO.

Requirement. Per LSO NATOPS.

Performance Standards
Per LSO NATOPS.

Prerequisite. Per LSO NATOPS.

External Syllabus Support. FCLP facility and L-class ship.

DESIG-705 0.0 E Designation

Goal. Advanced Night LSO.

Requirement. Per LSO NATOPS.

Performance Standards
Per LSO NATOPS.

Prerequisite. Per LSO NATOPS.

External Syllabus Support. FCLP facility and L-class ship.

DESIG-706 0.0 E Designation

Goal. Training Day LSO.

Requirement. Per LSO NATOPS.

Performance Standards
Per LSO NATOPS.

Prerequisite. Per LSO NATOPS.

External Syllabus Support. FCLP facility and L-class ship.

DESIG-707 0.0 E Designation

Goal. Training Night LSO.

Requirement. Per LSO NATOPS.

Performance Standards
Per LSO NATOPS.

Prerequisite. Per LSO NATOPS.

External Syllabus Support. FCLP facility and L-class ship.

DESIG-710 0.0 E Designation

Goal. Day Facility LSI.

Requirement. As outlined in Paragraph 151.6(b) and MAG LSI/LSS Order.

Performance Standards
As outlined in Paragraph 151.6(b) and MAG LSI/LSS Order.

Prerequisite. As outlined in Paragraph 151.6(b) and MAGLSI/LSS Order.

External Syllabus Support. Main facility.

DESIG-711 0.0 E Designation

Goal. Night Facility LSI.

Requirement. As outlined in Paragraph 151.6(b) and MAG LSI/LSS Order.

Performance Standards
As outlined in Paragraph 151.6(b) and MAG LSI/LSS Order.

Prerequisite. As outlined in Paragraph 151.6(b) and MAGLSI/LSS Order.

External Syllabus Support. Main facility.

DESIG-712 0.0 E Designation

Goal. Day Road LSS.

Requirement. As outlined in Paragraph 151.6(b) and MAG LSI/LSS Order.

Performance Standards
As outlined in Paragraph 151.6(b) and MAG LSI/LSS Order.

Prerequisite. As outlined in Paragraph 151.6(b) and MAGLSI/LSS Order.

External Syllabus Support. Road training facility or road base.

DESIG-713 0.0 E Designation

Goal. Night Road LSS.

Requirement. As outlined in Paragraph 151.6(b) and MAG LSI/LSS Order.

Performance Standards
As outlined in Paragraph 151.6(b) and MAG LSI/LSS Order.

Prerequisite. As outlined in Paragraph 151.6(b) and MAGLSI/LSS Order.

External Syllabus Support. Road training facility or road base.

DESIG-714 0.0 E Designation

Goal. Day CAL Site LSS.

Requirement. As outlined in Paragraph 151.6(b) and MAG LSI/LSS Order.

Performance Standards
As outlined in Paragraph 151.6(b) and MAG LSI/LSS Order.

Prerequisite. As outlined in Paragraph 151.6(b) and MAGLSI/LSS Order.

External Syllabus Support. CAL site.

DESIG-715 0.0 E Designation

Goal. Night CAL Site LSS.

Requirement. As outlined in Paragraph 151.6(b) and MAG LSI/LSS Order.

Performance Standards
As outlined in Paragraph 151.6(b) and MAG LSI/LSS Order.

Prerequisite. As outlined in Paragraph 151.6(b) and MAGLSI/LSS Order.

External Syllabus Support. CAL site.

7. LSO, LSI and LSS Tracking

a. Purpose. To enable squadrons to track LSO, LSI and LSS currency in various evolutions via SARA.

b. Ground/Academic Training. NA.

c. Flight and Simulator Event Training. (14 Events, 0.0 Hours).

TRK-720 0.0 Tracking

Goal. Control Day FCLP LSO.

Prerequisite. CQ-411.

External Syllabus Support. FCLP facility.

TRK-721 0.0 Tracking

Goal. Control Night FCLP LSO.

Prerequisite. TRK-720, CQ-413.

External Syllabus Support. FCLP facility.

TRK-722 0.0 Tracking

Goal. Control Aided Night FCLP LSO.

Prerequisite. TRK-721, CQ-397.

External Syllabus Support. FCLP facility.

TRK-723 0.0 Tracking

Goal. Control Day Ship LSO.

Prerequisite. TRK-720.

External Syllabus Support. L-class ship.

TRK-724 0.0 Tracking

Goal. Control Night Ship LSO.

Prerequisite. TRK-723, TRK-721.

External Syllabus Support. L-class ship.

TRK-725 0.0 Tracking

Goal. Control Night Aided Ship LSO.

Prerequisite. TRK-724.

External Syllabus Support. L-class ship.

TRK-726 0.0 Tracking

Goal. Control Day Training LSO.

External Syllabus Support. FCLP facility or L-class ship.

TRK-727 0.0 Tracking

Goal. Control Night Training LSO.

External Syllabus Support. FCLP facility or L-class ship.

TRK-730 0.0 Tracking

Goal. Control Day LSI Facility.

Prerequisite. FBO-412.

External Syllabus Support. Main operating facility.

TRK-731 0.0 Tracking

Goal. Control Night LSI Facility.

Prerequisite. TRK-730, FBO-413.

External Syllabus Support. Main operating facility.

TRK-732 0.0 Tracking

Goal. Control Day LSS Road.

Prerequisite. TRK-730, FBO-412.

External Syllabus Support. Road training site or road site.

TRK-733 0.0 Tracking

Goal. Control Night LSS Road.

Prerequisite. TRK-731, TRK-732, FBO-413.

External Syllabus Support. Road training site or road site.

TRK-734 0.0 Tracking

Goal. Control Day LSS CAL Site.

Prerequisite. TRK-732.

External Syllabus Support. CAL site.

TRK-735 0.0 Tracking

Goal. Control Night LSS CAL Site.

Prerequisite. TRK-734.

External Syllabus Support. CAL site.

160. ORDNANCE REQUIREMENTS. Annual ordnance requirements are developed on a "per crew" basis per OPNAVNOTE 8010. However, the following paragraphs also delineate the minimum level of ordnance support necessary to ensure that a notional squadron can attain and maintain the required level of core skill proficiency for its pilots.

1. Fleet Replacement Squadron (47 RAC basis)

ORDNANCE	RAC	SPT	IUT	Sqdn Total
25 mm	300	0	0	14100
Mk-76	180	30	36	11562
Mk-82	4	0	0	188
BDU-45	8	0	0	376
Mk-83	0	0	0	0
Mk-83(I)	0	0	0	0
Mk-20/CBU-99/100	0	0	0	0
Mk-77	0	0	0	0
LUU-2	0	4	0	188
2.75″ Rkt	0	0	0	0
5.0″ Rkt	0	0	0	0
AGM-65E	0	0	0	0
LGTR	2	0	0	94
GBU-12/16	0	0	0	0
JDAM	0	0	0	0
AIM-9	0	0	0	0
Self Protect Chaff	40	0	0	1880
Self Protect Flare	720	100	0	38540

Note: FRS ordnance requirements are based upon predicted steady-state throughput requirements and standard support/overhead factors per RAC equivalent.

2. Marine Attack Squadron

ORDNANCE	B/T	R	Sqdn Total
25 mm	1200	300	12000
Mk-76	96	36	1220
Mk-82	36	18	460
BDU-45	36	6	460
Mk-83	6	4	80
Mk-83(I)	6	24	80
Mk-20/CBU-99/100	4	4	50
Mk-77	4	4	50
LUU-2	16	0	80
2.75″ Rkt	20	16	420
5.0″ Rkt	20	16	420
AGM-65E	.33	.33	8
LGTR	12	6	180
GBU-12/16	.33	.33	8
JDAM	.33	.33	8
AIM-9	.33	.33	8
Self Protect Chaff	540	220	7260
Self Protect Flare	1260	540	16940

Note: VMA ordnance requirements are based upon predicted input rates for both basic and refresher pilots, plus core skill sustainment for remaining second-tour pilots. Squadron Totals reflected in this chart are computed from methodologies contained in spread sheets maintained by the MAWTS-1 and are not listed here.

170. RANGE REQUIREMENTS

1. General. The range requirements in these tables are based on event requirements listed in the individual event descriptions. Units should make every effort to adhere to the requirements listed in the event descriptions, but commanding officers may waive requirements based on existing range capabilities and limitations.

Category	Abbreviation	Name	Description	Notes
CAT I	MOA	Special Use Airspace or MOA	Per Flight Information Publications	
CAT I	RSTD	Restricted / Warning Area	Per Flight Information Publications	
CAT I	MTR	Military Training Route	Per Flight Information Publications	
CAT I	LAT	LAT Course	Approved LAT course. Normally preferred over an MTR for dedicated LAT sorties.	
CAT I	AA	Air-to-Air Range	Any airspace that can support BFM or ACM. May include Restricted Airspace, MOAs or Warning Areas for example	For Intercepts/BVR a minimum airspace of 40nm is usually required.
CAT I	AA GUNS	Air-to-Air Gunnery Range	Any airspace that can support Air-to-Air Gunnery on a towed Banner. Implies Restricted Airspace or Warning Areas for example.	
CAT I	MACH 1+	Supersonic	Any airspace that can support Supersonic Flight.	
CAT I	AAR	Air to Air Refueling	Any airspace that can support AAR.	
CAT II	TACTS	Tactical Air Combat Training System (TACTS)	TACTS range capable. A sophisticated airspace tracking and display instrumentation systems used primarily in ACM and threat WEZ recognition. All maneuvers are displayed real-time for a squadron Range Training Officer (RTO). All data is recorded to allow the aircrew to conduct post-mission analysis or “debriefs”.	TACTS usually includes ACM, NDBS, EW, NDWS, ARM, capabilities. Implies RSTD Airspace.
CAT II	EW	Electronic Warfare	Threat Emitters providing a dynamic red/or gray force threat environment to enhance threat recognition, self-protection and defense suppression techniques.	
CAT II	Hi Fi EW	High Fidelity EW	Hi Fidelity (live) Emitters. Live actual SAM systems with operators. Can provide feedback via tape debrief.	Often a desired substitute for EW, may be cost prohibitive
CAT II	ACM	Air Combat Maneuvering	Supports training in A-A maneuvers and weapons employment under realistic conditions for manned high performance FW & RW aircraft. This includes weapon simulation (AIM-9, AIM-7, AIM-120) from launch to impact with kill & miss indications as well as Pk and reason for miss provided.	

Category	Abbreviation	Name	Description	Notes
CAT II	ARM	Anti Radiation Missile	Supports training to ARM delivery with simulated missile fly-out and kill indications	
CAT II	CEDS	Countermeasures Employments Detection System	Supports training to countermeasures by linking to the ALE via TACTS systems for EW training. Normally included in a TACTS EW range.	
CAT II	ATIS	Avenger TACTS Interface	Allows the LAAD Avenger team to plug into TACTS and evaluate control/scoring	
CAT II	LSTSS	Large Scale Target Sensor System	A remote control scoring system capable of tracking LASER designator spots	
CAT II	IWTS	Imaging Weapons Training System	Virtual simulation to provide pilot uplink imagery of weapon seeker image through TOF to actual target	Supports SLAM-ER
CAT II	URBN WPNS	Urban Weapons Impact Range	Urban CAS range capable of JCAS, LT INERT and LSR.	
CAT II	URBN TRG	Urban Training	Urban area with overlying Restricted or MOA training airspace. Does not imply authorized weapons release or LASER use.	Example is a town such as Yuma under the Dome MOA.
CAT II	RKD RNG	Raked Range	Concentric circle range, with WISS. LSR and RLSR a desired capability but must be specified. Night lighting capability implied.	
CAT II	LSR	LASER Safe Range	Supports Airborne LASER Firing.	
CAT II	RLSR	Remote LASER Capable	A remote operated ground LASER may designate a target	Should be standard on a RKD RNG
CAT II	WISS	Weapons Impact Scoring Set	Scores bombing to designated targets. Scores can be relayed via voice of fax.	Should be standard on a RKD RNG
CAT II	NDBS	No Drop Bomb Scoring	Scores simulated bombing to designated targets. Scores can be relayed via tape debrief.	Should be standard on TACTS
CAT II	STRAFE	Strafe Pit / Target	A scored Strafing Pit or Target.	Often located near a RKD RNG
CAT II	TGT	Target	Any point- target that is authorized to release INERT weapons on.	May include an unscored Raked Range
CAT II	IR TGT	IR Significant Target	IR Significant Target	
CAT II	RDR TGT	RADAR Significant Target	RADAR Significant Target	
CAT II	LINK	LINK 16	LINK 16 available.	
CAT III	HE	HE Impact Area	Supports live HE ordnance. Implies EXP.	

Category	Abbreviation	Name	Description	Notes
CAT III	JCAS	JCAS TTPs	Supports all three types of CAS in the range. Allows JTAC personnel on range. Implies LSR and either INERT or HE.	
CAT III	LT INERT	Light Inert	Light Inert Impact Area.	MK-76 / LGTR / BDU-48 / Gun / Rockets
CAT III	HVY INERT	Heavy Inert	Heavy Inert Impact Area.	500lb and above
CAT III	JDAM	JDAM Impact Area / Target	Supports JDAM release.	
CAT III	JSOW	JSOW Impact Area / Target	Supports JSOW release.	
CAT III	LGB	LGB Impact Area / Target	Supports LGB (HE or HVY INERT) release and LASER firing	
CAT III	AA MISSILE	AA Missile Firing Range	Supports AA Missile Firing	AIM-9 / AIM-7 / AIM-120
CAT III	AS MISSILE	A/S Missile Firing Range	Supports AS Missile Firing	LMAV / LGB / Hellfire / TOW
CAT III	ARM MISSILE	ARM Missile Firing Range	Supports ARM Missile Firing. Requires an EW emitter.	AGM-88
CAT III	EXP	Expendables Authorized	Supports use of Chaff & Flares	
CAT III	ICM	Improved Conventional Munitions	Supports ICM or Cluster munitions	
CAT IV	IMC	Instrumented Multi-Spectral Cues	Full size replicas of actual AAA and SAM systems, IR significant and normally linked to LSTSS and NDBS / WISS	
CAT IV	MOCK	Mock-up Targets	Full size replicas of Mechanized or Threat vehicles. IR significant desired. Weapons release not implied.	
CAT IV	GWVS	Ground Warfare Visual Simulator	Provide enhanced battlefield realism via simulation of muzzle flashes for AAA and launch of SAMs	
CAT IV	SST	Smokey SAM Team	Smoke Rockets to simulate MANPADs or RF SAMs	
CAT IV	COMPLEX	Complex Target Array	Dispersed target array requiring sorting of targets and may include infrastructures such as runways, facilities, POL sites, etc. Implies INERT and LSR. WISS desired. WISS desired.	
CAT IV	TGT-FORM	Tactical Targets in Formation	Full size actual or replicas of Mechanized or Threat vehicles. IR significant desired. Implies INERT and LSR. WISS desired.	
CAT IV	TGT-DISP	Tactical Targets Dispersed	Full size actual or replicas of Mechanized or Threat vehicles. IR significant desired. Implies INERT and LSR. WISS desired.	

Category	Abbreviation	Name	Description	Notes
CAT IV	TGT-MOVE	Tactical Targets Moving	Full size actual or replicas of Mechanized or Threat vehicles. IR significant desired. Implies LT INERT and LSR. WISS & LSTSS desired.	
CAT IV	RECCE ARRAY	Actual Tactical Targets in an Array for PID	Full size actual Mechanized or Threat vehicles. Organized in an array in order to allow PID. Weapons release not implied.	
CAT IV	STRUCTR	Structures	May include a building, bunker or revetment. IR significant desired. Inert weapons release authorized. LSR capable. WISS desired.	

180. MOS SYLLABUS MATRIX. These matrices display specific 100 – 700 level event information.

STAGE	TRNG CODE	FLT HOURS	FLIGHTS	SIM HOURS	SIMULATOR	REFLY INTVL	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	SORTIE DESCRIPTION	EVENT CONV
CORE SKILL INTRODUCTION 100 SERIES															
FAM															
SFAM	001			2.0	X	*	S			GROUND SCHOOL	B	E	0.2	COCKPIT, PRE-START, ENGINE START, TAXI CHECKLISTS	001
SFAM	002			2.0	X	*	S			001	B	E	0.2	TAKEOFF, INFLIGHT, LANDING CHECKLISTS	002
SFAM	003			2.0	X	*	S			002	B	E	0.2	TAKEOFF, INFLIGHT, LANDING CHECKS / MANEUVERS / EP	003
SFAM	004			2.0	X	*	S			003	B	E	0.2	TAKEOFF, INFLIGHT, LANDING CHECKS / MANEUVERS / EP	004
SFAM	005			2.0	X	*	S			004	B	E	0.2	TAKEOFF, INFLIGHT, LANDING CHECKS / MANEUVERS / EP	005
SFAM	006			2.0	X	*	S			005	B	E	0.2	TAKEOFF, INFLIGHT, LANDING CHECKS / MANEUVERS / EP	006
SFAM	007			2.0	X	*	S			006	B	E	0.2	TAKEOFF, INFLIGHT, LANDING CHECKS / MANEUVERS / EP	007
SFAM	008			2.0	X	*	S			007	B	E	0.2	INTRO EP / REVIEW TAKEOFF, INFLIGHT, LANDING CHECKS AND MANEUVERS	008
SFAM	009			2.0	X	*	S			008	B	E	0.2	INTRO EP / REVIEW TAKEOFF, INFLIGHT, LANDING CHECKS AND MANEUVERS	009
SFAM	010			2.0	X	*	S			009	B	E	0.2	INTRO EP / REVIEW TAKEOFF, INFLIGHT, LANDING CHECKS AND MANEUVERS	010
SFAM	011			2.0	X	*	S			010	B	E	0.2	INTRO EP / REVIEW TAKEOFF, INFLIGHT, LANDING CHECKS AND MANEUVERS	011
SFAM	012			2.0	X	*	S			011	B	E	0.2	INTRO EP AND PROGRESS CHECK	012
FAM	013	1.3	X			*	A	1		012	B	E	0.5	CTO, STO(S), HANDLING DRILLS, FNSL(S), VNSL(A)	013
FAM	014	1.3	X			*	A	1		013	B	E	0.5	TACAN, R+G LANDINGS, VNSL(S), PRESS-UP / REVIEW	014
FAM	015	1.3	X			*	A	1		014	B	E	0.5	GCA, CL, T+G LANDINGS / REVIEW	015
FAM	016	1.3	X			*	A	1		015	B	E	0.5	VTO ACCEL, RVL, DECEL-VL, BOX PATTERN / REVIEW	016
FAM	017	1.3	X			*	A	1		016	B	E	0.5	RVTO, HSSL / REVIEW	017
FAM	018	1.3	X			*	A	1		017	B	E	0.5	PEDAL TURN / REVIEW	
FAM	019	1.3	X			*	A	1		018	B	E	0.5	T+G LANDINGS / REVIEW	
SFAM	020			1.5	X	*	S			019	B	E	0.2	INSTRUMENT PROCEDURES / PARTIAL PANEL / UNUSUAL ATTITUDES	040
SFAM	021			1.5	X	*	S			020	B	E	0.2	AIRWAYS NAVIGATION / REVIEW	041
SFAM	022			1.5	X	*	S			021	B	E	0.2	CRUISE PROFILE, MAXIMUM RANGE, MIN FUEL GCA / REVIEW	042
FAM	023	1.5	X			*	A	1		022	B	E	0.5	INSTRUMENT PROCEDURES, APPROACHES, MISSED APPROACHES	043
FAM	024	1.5	X			*	A	1		023	B	E	0.5	AIRWAYS NAVIGATION, FUEL GCA	044
SFAM	025			1.5	X	*	S			024	B	E	0.2	INSTRUMENT CHECK	045
FAM	026	1.3	X			*	A	1		025	B	E	0.5	VFR STRAIGHT-IN / REVIEW	022
SFAM	027			2.0	X	*	S			026	B	E	0.2	COMPOUND EMERGENCIES	023
FAM	028	1.3	X			*	A	1		027	B	E	0.5	SAFE FOR SOLO CHECK	025
FAM	029	1.3	X			*	A	1		028	B	E	0.5	SOLO FLIGHT	026
		16.0	**12**	**32.0**	**17**								**9.4**		
FBO															
SFBO	030			1.0	X	*	S			GND SCHL, 029	B	E	0.2	INTRODUCE FBO AND EMERGENCY PROCEDURES	050
FBO	031	0.8	X			*	A	1		030	B	E	0.4	PRACTICE FBO	051
FBO	032	0.8	X			*	A	1		031	B	E	0.4	REVIEW FBO	052
		1.6	**2**	**1.0**	**1**								**1.0**		
FCLP															
SFCLP	035			1.0	X	*	S			GND SCHL, 029	B	E	0.2	INTRODUCE FCLP AND EMERGENCY PROCEDURES	060
FCLP	036	1.0	X			*	A	1		035	B	E	0.4	PRACTICE FCLP	061
FCLP	037	1.0	X			*	A	1		036	B	E	0.4	REVIEW FCLP	062
FCLP	038	1.0	X			*	A	1		037	B	E	0.4	REVIEW FCLP	063
FCLP	039	1.0	X			*	A	1		038	B	E	0.4	REVIEW FCLP	064
FCLP	040	1.0	X			*	A	1		039,	B	E	0.4	REVIEW FCLP	065
FCLP	041	1.0	X			*	A	1		040, 50 HRS	B	E	0.4	FCLP (D) QUAL	066
		6.0	**6**	**1.0**	**1**								**2.6**		
FORM															
FORM	045	1.3	X			*	A	2		GND SCHL, 029	B	E	0.4	INTRODUCE ADMINISTRATIVE FORMATION PROCEDURES	019
FORM	046	1.3	X			*	A	2		045	B	E	0.4	PRACTICE ADMINISTRATIVE FORMATION PROCEDURES	020
		2.6	**2**	**0.0**	**0**								**0.8**		
AAH															
SAAH	050			2.0	X	*	S			GND SCHL, 046	B	E	0.2	INTRODUCE AEROBATICS AND SLOW SPEED MANEUVERING	
SAAH	051			2.0	X	*	S			050	B	E	0.2	INTRODUCE ADVANCED AIRCRAFT MANEUVERS	080
SAAH	052			2.0	X	*	S			051	B	E	0.2	INTRODUCE ADVANCE AIRCRAFT MANEUVERS	081
AAH	053	1.0	X			*	A	1		052	B	E	0.4	PRACTICE ADVANCED AIRCRAFT MANEUVERS	
AAH	054	1.0	X			*	A	1		053	B	E	0.4	PRACTICE ADVANCED AIRCRAFT MANEUVERS	083
AAH	055	1.0	X			*	A	2		054	B	E	0.4	PRACTICE ADVANCED AIRCRAFT MANEUVERS	
		3.0	**3**	**6.0**	**3**								**1.8**		
TACFORM															
TACFORM	060	1.1	X			*	A	2		055	B	E	0.4	SECTION TACFORM AT MEDIUM ALTITUDE	070
TACFORM	061	1.1	X			*	A	2		060	B	E	0.4	COMM-OUT TURNS AT MEDIUM ALTITUDE	071

STAGE	TRNG CODE	FLT HOURS	FLIGHTS	SIM HOURS	SIMULATOR	REFLY INTVL	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	SORTIE DESCRIPTION	EVENT CONV
TACFORM	062	1.1	X			*	A	2		061	B	E	0.4	SECTION TACFORM AT LOW LEVEL	074
TACFORM	063	1.1	X			*	A	2		062	B	E	0.4	SECTION TACFORM AT HIGH ALTITUDE	
TACFORM	064	1.1	X			*	A	4		063	B	E	0.4	DIVISION FORMATION AT MEDIUM ALTITUDE	075
		5.5	**5**	**0.0**	**0**								**2.0**		
										NAV					
SNAV	065			1.5	X	*	S			055, GND SCHL	B	E	0.4	INTRODUCE LOW LEVEL NAVIGATION	090
SNAV	066			1.5	X	*	S			065	B	E	0.4	INTRODUCE OFP DIFFERENCES FOR NAVIGATION	091
		0.0	**0**	**3.0**	**2**								**0.8**		
										INT					
SINT	070			1.5	X	*	S			GND SCHL, 046	B	E	0.3	INTRODUCE A/A CONTROLS AND DISPLAYS (MTT)	
SINT	071			1.5	X	*	S			070	B	E	0.3	INTRODUCE RADAR INTERCEPT: COLLISION BEARING (MTT)	
SINT	072			1.5	X	*	S			071	B	E	0.3	INTRODUCE RADAR INTERCEPT: RBH (MTT)	
SINT	073			1.5	X	*	S			072	B	E	0.3	INTRODUCE RADAR INTERCEPT: COLLISION BEARING (SIM)	
SINT	074			1.5	X	*	S			073	B	E	0.3	INTRODUCE RADAR INTERCEPT: RBH (SIM)	
INT	075	1.2	X			*	A	2		074	B	E	0.6	INTRODUCE RADAR INTERCEPT: COLLISION BEARING	
INT	076	1.2	X			*	A	2		075	B	E	0.6	INTRODUCE RADAR INTERCEPT: RBH	
		2.4	**2**	**7.5**	**2**								**2.7**		
										AAR					
AAR	080	1.5	X			*	A	2		GND SCHL,064	B	E	0.5	DAY AAR QUALIFICATION	161
		1.5	**1**	**0.0**	**0**								**0.5**		
										TCT					
STCT	085			1.5	X	*	S			GND,SCHL, 064	B	E	0.5	INTRODUCE ASE / MEDIUM ALTITUDE TCT	125
STCT	086			1.5	X	*	S			085	B	E	0.5	MEDIUM ALTITUDE TO LOW ALTITUDE TCT	
TCT	087	1.0	X			*	A	2		086,125	B	E	1.0	MEDIUM ALTITUDE AND LOW ALTITUDE TCT	126
TCT	088	1.0	X			*	A	2		087	B	E	1.0	MEDIUM ALTITUDE TCT	
		2.0	**2**	**3.0**	**2**								**3.0**		
										AS					
SAS	090			1.5	X		S			GRND SCHL, 088	B	E	0.4	INTRODUCE A/S RADAR CONTROLS AND DISPLAYS	
SAS	091			1.5	X	*	S			090	B	E	0.4	INTRODUCE A/S RADAR MODES	
SAS	092			1.5	X	*	S			091	B	E	0.4	INTRODUCE COMPUTED WEAPONS DELIVERIES	100
SAS	093			1.5	X	*	S			092	B	E	0.4	INTRODUCE LOW ANGLE DELIVERIES	101
SAS	094			1.5	X	*	S			093	B	E	0.4	INTRODUCE ARBS/TV DELIVERIES	102
SAS	095			1.5	X	*	S			094	B	E	0.4	INTRODUCE ARBS/LST DELIVERIES	103
SAS	096			1.5	X	*	S			095	B	E	0.4	INTRODUCE AGR / OSCAR DIFFERENCES	
SAS	097			1.5	X	*	S			093	B	E	0.4	INTRODUCE LOW ANGLE STRAFE / ROCKET DELIVERIES	
AS	098	1.0	X			*	A	1		096,127	B	E	0.8	INTRODUCE COMPUTED WEAPONS DELIVERIES	105
AS	099	1.0	X			*	A	2		098	B	E	0.8	REVIEW MEDIUM ANGLE DELIVERIES	
AS	100	1.0	X			*	A	2		099	B	E	0.8	INTRODUCE ARBS/TV DELIVERIES	106
AS	101	1.0	X			*	A	2		099	B	E	0.8	INTRODUCE AGR MODE	
AS	102	1.0	X			*	A	1		099	B	E	0.8	INTRODUCE LOW ANGLE DELIVERIES	108
AS	103	1.0	X			*	A	2		097, 100, 101, 102	B	E	0.8	INTRODUCE LOW ANGLE STRAFE, HIGH DRAG DELIVERIES	109
		6.0	**6**	**12.0**	**8**								**8.0**		
										MECH					
SMECH	105			1.5	X	*	S			103, GND SCHL	B	E	0.5	INTRODUCE TRANSITION PROFILES AND HVYWT AIRCRAFT HANDLING	112
SMECH	106			1.5	X	*	S			105	B	E	0.5	INTRODUCE LOW ALTITUDE TRANSITION PROFILES	115
SMECH	107			1.5	X	*	S			TPOD GS	B	E	0.5	INTRODUCE TPOD CONTROLS AND DISPLAYS	
SMECH	108			1.5	X	*	S			105,107	B	E	0.5	INTRODUCE TPOD BUDDY AND SELF-LASE ATTACKS	
MECH	109	1.0	X			*	A	2		105	B	E	1.0	INTRODUCE TRANSITION PROFILES	114
MECH	110	1.0	X			*	A	1		106	B	E	1.0	INTRODCUCE LOW ALTITUDE TRANSITION PROFILES	
MECH	111	1.0	X			*	A	2		109	B	E	1.0	INTRODUCE MEDIUM ALTITUDE SECTION ATTACKS	118
MECH	112	1.0	X			*	A	2		111	B	E	1.0	REVIEW MEDIUM ALTITUDE SECTION ATTACKS	
MECH	113	1.0	X			*	A	2		110,112	B	E	1.0	INTRODUCE LOW ALTITUDE SECTION ATTACKS	120
MECH	114	1.0	X			*	A	2		108,112	B	E	1.0	INTRODUCE TPOD BUDDY-LASE PROFILES	
MECH	115	1.0	X			*	A	2		114	B	E	1.0	REVIEW TPOD BUDDY-LASE PROFILES	
		7.0	**7**	**6.0**	**4**								**9.0**		
										CAS					
SCAS	120			1.5	X	*	S			GND SCHL,115	B	E	0.5	INTRODUCE MEDIUM ALTITUDE CAS	140
SCAS	121			1.5	X	*	S			120	B	E	0.5	INTRODUCE LOW LEVEL CAS	141
CAS	122	1.0	X			*	A	1		120	B	E	0.5	INTRODUCE MEDIUM ALTITUDE CAS	142
CAS	123	1.0	X			*	A	2		122	B	E	1.0	REVIEW MEDIUM ALTITUDE CAS	143
CAS	124	1.0	X			*	A	2		121,123	B	E	1.0	INTRODUCE LOW LEVEL CAS	144
		3.0	**3**	**3.0**	**2**								**3.5**		
										VCON					
VCON	125	1.3	X			*	A	1		TCT GND SCHL, 029	B	E	0.5	V/STOL CONSOLIDATION	027
SVCON	126			1.0	X	*	S			AS GND SCHL, 029	B	E	0.2	EMERGENCY PROCEDURES REVIEW	024
VCON	127	1.3	X			*	A	1		126	B	E	0.5	V/STOL CONSOLIDATION	028
VCON	128	1.3	X			*	A	1		AA GND SCHL, 029	B	E	0.5	V/STOL CONSOLIDATION	029

STAGE	TRNG CODE	FLT HOURS	FLIGHTS	SIM HOURS	SIMULATOR	REFLY INTVL	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	SORTIE DESCRIPTION	EVENT CONV
		3.9	**3**	**1.0**	**1**								**1.7**		
AA															
SAA	130			1.5	X	*	S			GND SCHL, 124	B	E	0.4	INTRODUCE BFM HANDLING. REVIEW AIRCRAFT HANDLING	150
SAA	131			2.0	X	*	S			130	B	E	0.4	INTRODUCE TVC	151
AA	132	1.0	X			*	A	2		131,128	B	E	0.8	INTRODUCE AA WEAPONS, AIRCRAFT HANDLING, TVC	153
AA	133	1.0	X			*	A	2		132	B	E	0.8	INTRODUCE BFM PROCEDURES AND DRILLS	
AA	134	1.0	X			*	A	2		133	B	E	0.8	1V1 OFFENSIVE BFM	154
AA	135	1.0	X			*	A	2		134	B	E	0.8	1V1 OFFENSIVE BFM	
AA	136	1.0	X			*	A	2		135	B	E	0.8	1V1 DEFENSIVE BFM	155
AA	137	1.0	X			*	A	2		136	B	E	0.8	1V1 DEFENSIVE BFM	
AA	138	1.0	X			*	A	2		137	B	E	0.8	1V1 NEUTRAL BFM	156
		7.0	**7**	**3.5**	**2**								**6.4**		
NS															
SNS	140			1.5	X	*	S		N	GND SCHL,124	B	E	0.4	INTRODUCE NIGHT UNAIDED V/STOL AND NVG USAGE	030
SNS	141			1.5	X	*	S		NS	140	B	E	0.4	INTRODUCE NS V/STOL	170
NS	142	1.3	X			*	A	1	N	141	B	E	0.8	INTRODUCE NIGHT UNAIDED V/STOL AND NVG USAGE	031
NS	143	1.3	X			*	A	2	N	142	B	E	0.8	INTRODUCE NIGHT UNAIDED FORMATION	076
NS	144	1.3	X			*	A	1	NS	143	B	E	0.8	NIGHT SYSTEM V/STOL CONSOLIDATION	172
NS	145	1.3	X			*	A	2	NS	144	B	E	0.8	INTRODUCE NS FORMATION	173
		5.2	**4**	**3.0**	**2**								**4.0**		
NFAM															
NFAM	146	1.3	X			*	A	1	N*	145	B	E	0.8	INTRODUCE NS FORMATION	033
		1.3	**1**	**0.0**	**0**								**0.8**		
NATOPS															
NATOPS	195			1.5	X	*	S			COMPLETE	B	E	2.0	AIRCRAFT SYSTEMS, NORMAL AND EMERGENCY PROCEDURES	190
		0.0	**0**	**1.5**	**1**								**2.0**		
		74.0	**66.0**	**76.0**	**46.0**								**60.0**		
REFRESHER SYLLABUS 100 SERIES															
RFAM															
RSFAM	150			1.5	X	*	S			GND SCHL	R M SS	E		COCKPIT PROCEDURES / TAKEOFF, INFLIGHT, LNDG CHECKS / EP	
RSFAM	151			1.5	X	*	S			150	R M SS	E		REVIEW NORMAL, EMERGENCY PROCEDURES	
RSFAM	152			1.5	X	*	S			151	R M SS	E		REVEW TACAN, GCA, NORMAL PROCEDURES	
RSFAM	153			1.5	X	*	S			152	R M SS	E		REVIEW NORMAL, EMERGENCY PROCEDURES	
RSFAM	154			1.5	X	*	S			153	R M SS	E		PROGRESS CHECK	
RSFAM	155			1.5	X	*	S			154	R M SS	E		COMPOUND EMERGENCIES	
RFAM	156	1.3	X			*	A	1		155	R M SS	E		PRACTICE VSTOL	
RFAM	157	1.3	X			*	A	1		156	R M SS	E		PRACTICE VSTOL	
RFAM	158	1.3	X			*	A	1		157	R M	E		PRACTICE VSTOL	
RSFAM	159			1.5	X	*	S			158	R M	E		AIRWAYS NAVIGATION	
RFAM	160	1.3	X			*	A	1		159	R	E		AIRWAYS NAVIGATION, MIN FUEL GCA	
RSFAM	161			1.5	X	*	S			159,160	R M	E		INSTRUMENT CHECK	
RFAM	162	1.3	X			*	A	1		161,157	R M SS	E		SAFE FOR SOLO CHECK FLIGHT	
RFAM	163	1.3	X			*	A	1		162	R M SS	E		SOLO FLIGHT	
		7.8	**6**	**12.0**	**8**										
RFORM															
RFORM	165	1.1	X			*	A	2		GND SCHL,163	R M	E		REVIEW ADMINISTRATIVE AND TACTICAL FORMATION	
		1.1	**1**	**0.0**	**0**										
RNAV															
RSNAV	170			1.5	X	*	S			GND SCHL,163	R M	E		INTRODUCE LOW LEVEL NAVIGATION	
		0.0	**0**	**1.5**	**1**										
RTCT															
RSTCT	175			1.5	X	*	S			GND SCHL,170	R	E		INTRODUCE ASE / MEDIUM ALTITUDE TCT	
		0.0	**0**	**1.5**	**1**										
RAS															
RSAS	180			1.5	X	*	S			GND SCHL,170,175	R M	E		REVIEW MEDIUM AND LOW ANGLE ARBS/TV/LST DELIVERIES	
RAS	181	1.0	X			*	A	1+		180	R M	E		INTRODUCE COMPUTED WEAPONS DELIVERIES	
RAS	182	1.0	X			*	A	2		181	R M	E		REVIEW MEDIUM AND LOW ANGLE ARBS/TV/LST DELIVERIES	
		2.0	**2**	**1.5**	**1**										
RMECH															

STAGE	TRNG CODE	FLT HOURS	FLIGHTS	SIM HOURS	SIMULATOR	REFLY INTVL	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	SORTIE DESCRIPTION	EVENT CONV
RSMECH	185			1.5	X	*	S			GND SCHL,182	R	E		INTRODUCE TRANSITION PROFILES	
RSMECH	186			1.5	X	*	S			185	R	E		INTRODUCE LOW ALTITUDE TRANSITION PROFILES	
RMECH	187	1.0	X			*	A	2		186	R	E		REVIEW SECTION MEDIUM ALTITUDE ATTACKS	
RMECH	188	1.0	X			*	A	2		187	R	E		BRIEF, LEAD AND DEBRIEF MEDIUM ALTITUDE ATTACKS	
		2.0	**2**	**3.0**	**2**										
RSCAS															
RSCAS	190			1.5	X	*	S			GND SCHL,186	R	E		INTRODUCE MEDIUM ALTITUDE CAS	
		0.0	**0**	**1.5**	**1**										
RNATOPS															
RSNATOPS	195			1.5	X	*	S			COMPLETE	R M SS	E		AIRCRAFT SYSTEMS, NORMAL AND EMERGENCY PROCEDURES	190
		0.0	**0**	**1.5**	**1**										
		12.9	**11.0**	**22.5**	**15.0**										

STAGE	TRNG CODE	FLT HOURS	FLIGHTS	SIM HOURS	SIMULATOR	REFLY INTVL	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	SORTIE DESCRIPTION	EVENT CONV
CORE SKILL BASIC 200 SERIES																
FAM																
SFAM	200			1.0	X	*	S		(NS)	(255)			0.0		OFP DIFFERENCES SIM	200
SFAM	201			1.0	X	30	S		(NS)	200, (255)	R		0.0		EP SIM	200
FAM	202	1.3	X			30	A	1+	(NS)	201, (255)	R		0.1		DAY FAM VSTOL NAV INST	201
		1.3	**1**	**2.0**	**2**								**0.1**			
AAR																
AAR	210	1.3	X			365	A	1+		202	R		0.3	202	DAY AAR	204
AAR	211	1.3	X			365	A	1+	N	210, (255)	R		0.3	202, 210	NIGHT AAR	205
		2.6	**2**	**0.0**	**0**								**0.6**			
LAT																
SLAT	220			1.0	X	*	S			202			0.0		2D / 3D LAT SIM	220
SLAT	221			1.0	X	180	S			220	R		0.1		LAT SACT SIM	221
LAT	222	1.0	X			*	A	2		221			0.4	202	2D / 3D LAT	223
LAT	223	1.0	X			*	A	2		222			0.4	202, 222	LAT SACT	226
		2.0	**2**	**2.0**	**2**								**0.9**			
AS																
SAS	230			1.0	X	*	S		(NS)	223	R		0.1		SACT SIM	206
SAS	231			1.0	X	*	S		(NS)	202			0.1		SENSORS (TPOD / RDR) SIM	310
SAS	232			1.0	X	*	S		(NS)	231	R		0.1		HI / MED / LOW ANGLE DIVE SIM	210
SAS	233			1.0	X	*	S		(NS)	231	R		0.1		JDAM SIM	686
SAS	234			1.0	X	*	S		(NS)	231			0.1		LMAV / LGB SIM	212
AS	235	1.3	X			180	A	2	(NS)	230	R		0.6	202, 221, (252)	SACT	227
AS	236	1.3	X			180	A	2+	(NS)	231			0.6	202, (252)	SENSORS	312
AS	237	1.3	X			180	A	2+	(NS)	236			0.6	202, 236, (252)	TGT ACQ / PID	314
AS	238	1.3	X			180	A	2+	(NS)	232, 237	R		0.6	202, 236, 237, (252)	HI / MED ANGLE DIVE	213
AS	239	1.3	X			180	A	2+	(NS)	232, 238			0.6	202, 236, 237, 238, (252)	MED / LO ANGLE STRAFE / ROCKET	211
AS	240	1.3	X			180	A	2	(NS)	223, 239			0.6	202, 238, (252)	SGL / SEC / LOW ANGLE POP	213
AS	241	1.3	X			180	A	2	(NS)	234, 237			0.6	202, 236, 237, (252)	LMAV / LGB ATK	315
AS	242	1.3	X			180	A	2	(NS)	233, 237			0.6	202, 236, 237, (252)	JDAM	686
AS	243	1.3	X			180	A	2+	(NS)	235, 239	R		0.6	202, 235, 236, 237, 238, 239, 240, (252)	SEC / DIV (VISUAL)	214
AS	244	1.3	X			180	A	2+	(NS)	235, 241, 242	R		0.6	202, 235, 236, 237, 241, 242, (252)	SEC / DIV (STANDOFF)	215
		13.0	**10**	**5.0**	**5**								**6.5**			
NS																
SNS	250			1.0	X	*	S		NS	244			0.1		SENSORS SIM	311
SNS	251			1.0	X	*	S		NS	250	R		0.1		BCWD PROFILES SIM	230
NS	252	1.3	X			180	A	2	NS	251	R		0.6	202	FAM / FORM	232
NS	253	1.3	X			*	A	2	NS	252			0.6	202, 236, 237, 241, 252	LGB / GPS	313
NS	254	1.3	X			*	A	2	NS	253			0.6	202, 236, 238, 239, 252	20/30 DIVE / TRANSITION	234
NS	255	1.3	X			*	A	2	NS	254	R		0.6	202, 236, 237, 238, 239, 242, 252, 254	TGT AREA MECHANICS (VIS/PGM)	235
		5.2	**4**	**2.0**	**2**								**2.6**			
AA																
SAA	260			1.0	X	*	S			244	R		0.1		TVC / AIRCRAFT HANDLING SIM	270
AA	261	1.3	X			180	A	2		260			0.4	202	TVC / AIRCRAFT HANDLING	271
AA	262	1.3	X			180	A	2		261			0.4	202	1V1 OFFENSIVE BFM	271
AA	263	1.3	X			180	A	2		262			0.4	202	1V1 DEFENSIVE BFM	272
AA	264	1.3	X			180	A	2		263	R		0.4	202, 263, 262, 261	1V1 NEUTRAL / FQMD	273
SAA	265			1.0	X	*	S		(NS)	244			0.1		INTRO TO GCI SIM	275
SAA	266			1.0	X	*	S		(NS)	265			0.1		FORWARD QUARTER INTERCEPTS SIM	276
SAA	267			1.0	X	*	S		(NS)	266			0.1		REVIEW FORWARD QUARTER SIM	277
SAA	268			1.0	X	*	S		(NS)	267			0.1		SHORT RANGE RADAR MECH SIM	279
SAA	269			1.0	X	*	S		(NS)	268			0.1		FORMATION ANALYSIS SIM	280
SAA	270			1.0	X	*	S		(NS)	269			0.1		INTRO TO MANEUVERING ADVERSARIES	278
AA	271	1.3	X			180	A	2		264,270	R		0.5	202, 261, 262, 263, 264	2V1 SECTION ENGAGED MANEUVERING	274
AA	272	1.3	X			180	A	2		271			0.5	202, 261, 262, 263, 264, 271	2V2 SECTION ENGAGED MANEUVERING	286
AA	273	1.3	X			180	A	2		272			0.5	202, 261, 262, 263, 264	1V1 INTERCEPTS	283

STAGE	TRNG CODE	FLT HOURS	FLIGHTS	SIM HOURS	SIMULATOR	REFLY INTVL	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	SORTIE DESCRIPTION	EVENT CONV
AA	274	1.3	X			180	A	2		273	R		0.5	202, 261, 262, 263, 264, 271, 272, 273	2V2 BVR	286
		10.4	**8**	**7.0**	**7**								**4.3**			
		34.5	**27**	**18.0**	**18**								**15.0**			
CORE SKILL ADVANCED 300 SERIES																
CAS																
SCAS	300			1.0	X	*	S		(NS)	255	R		0.3		TYPE 1 CAS SIM (SYSTEM MGMT)	250
SCAS	301			1.0	X	*	S		(NS)	300			0.3		TYPE 2 / 3 CAS SIM	252
SCAS	302			1.0	X	*	S		(NS)	301			0.3		DIGITAL CAS SIM	251
CAS	303	1.3	X			180	A	2		302	R		1.5	202	DAY TYPE 1 CAS	253
CAS	304	1.3	X			180	A	2		302			1.5	202	DAY TYPE 2 / 3 CAS	253
CAS	305	1.3	X			180	A	2	NS	303	R		1.5	202, 303, 252	NIGHT TYPE 1 CAS	255
CAS	306	1.3	X			180	A	2	NS	304	R		1.5	202, 304, 252	NIGHT TYPE 2 / 3 CAS	255
CAS	307	1.3	X			*	A	2	(NS)	302			1.5	202, (252)	URBAN CAS	340
		6.5	**5**	**3.0**	**3**								**8.4**			
AR																
SAR	310			1.0	X	*	S			255			0.3		DAY AR SIM	245
AR	311	1.3	X			180	A	2+	(NS)	310			1.3	202, 236, 237, 238, 243, (252)	AR (GP)	246
AR	312	1.3	X			180	A	2+		311	R		1.3	202, 236, 237, 244	DAY AR (PGM)	246
AR	313	1.3	X			180	A	2+	NS	312	R		1.3	202, 236, 237, 244, 252, 311, 312	NIGHT AR (PGM/GP)	247
		3.9	**3**	**1.0**	**1**								**4.2**			
SCAR																
SCAR	320	1.3	X			180	A	2		313			1.2	202, 311, 312	DAY SCAR	490
SCAR	321	1.3	X			180	A	2	NS	320	R		1.2	202, 252, 311, 312, 313, 320	NIGHT SCAR	491
		2.6	**2**	**0.0**	**0**								**2.4**			
AAW																
SAAW	330			1.0	X	*	S		(NS)	274, (255)	R		0.3		2 GROUP PRESENTATIONS SIM	281
SAAW	331			1.0	X	*	S		(NS)	330, (255)			0.3		DECOY TACTICS SIM	282
AAW	332	1.3	X			270	A	2+	(NS)	331, (255)	R		1.1	202, (252), 261, 262, 263, 264, 271, 272, 273, 274	DCA	470
		1.3	**1**	**2.0**	**2**								**1.7**			
AI																
SAI	350			1.0	X	*	S		(NS)	200-level			0.3		AI INTRODUCTION SIM	240
AI	351	1.3	X			270	A	2+		350	R		1.0	202	DAY AI MED ALT	241
AI	352	1.3	X			270	A	2+	NS	350			1.0	202, 252, 351	NIGHT AI MED ALT	243
AI	353	1.3	X			270	A	4	(NS)	352	R		1.0	202, (252), 352, 351	DIV AI (AGGRESSED) MED ALT	445
		3.9	**3**	**1.0**	**1**								**3.3**			
		18.2	**14**	**7.0**	**7**								**20.0**			
CORE SKILLS PLUS 400 SERIES																
FCLP(D)																
SFCLP	400			1.0	X	*	S			202	R		0.1		FCLP SIM	295
FCLP	401	2.0	X			365	A	1		400	R		0.1	202	DAY FCLP QUAL	296
		2.0	**1**	**1.0**	**1**								**0.2**			
FCLP(N)																
SFCLP	402			1.0	X	*	S		N	400	R		0.1		NIGHT FCLP SIM	390
FCLP	403	2.0	X			*	A	1	N	401, 402	R		0.1	202, 401	NIGHT FCLP	392
SFCLP	404			1.0	X	*	S		NS	402, 255	R		0.1		NIGHT FCLP SIM (NVG)	391
FCLP	405	2.0	X			365	A	1	NS	401, 404	R		0.1	202, 252, 401	NIGHT FCLP (NVG)	393
		4.0	**2**	**2.0**	**2**								**0.4**			
CQ(D)																
SCQ	410			1.0	X	*	S			401	R		0.1		CQ SIM	297
CQ	411	3.0	X			365	A	1		410	R		0.2	202, 401	DAY CQ QUAL	298
		3.0	**1**	**1.0**	**1**								**0.3**			
CQ(N)																
SCQ	412			1.0	X	*	S		N	411	R		0.1		NIGHT CQ SIM	394
CQ	413	2.0	X			*	A	1	N	412	R		0.2	202, 401, 403, 411	NIGHT CQ	396
SCQ	414			1.0	X	*	S		NS	411, 255	R		0.1		NIGHT CQ SIM (NVG)	395
CQ	415	3.0	X			365	A	1	NS	414	R		0.2	202, 252, 401, 405, 411	NIGHT CQ (NVG)	397
		5.0	**2**	**2.0**	**2**								**0.6**			

STAGE	TRNG CODE	FLT HOURS	FLIGHTS	SIM HOURS	SIMULATOR	REFLY INTVL	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	SORTIE DESCRIPTION	EVENT CONV
FBO																
SFBO	420			1.0	X	*	S			202	R		0.1		FBO SIM	410
FBO	421	2.0	X			365	A	1		420	R		0.2 202		DAY FBO	412
SFBO	422			1.0	X	*	S		(NS)	420, (255)	R		0.1		NIGHT FBO SIM	411
FBO	423	2.0	X			365	A	1	(NS)	422, 421	R		0.2	202, (252), 421	NIGHT FBO	413
		4.0	**2**	**2.0**	**2**								**0.6**			
ADVANCED LAT																
LAT	430	1.3	X			180	A	2		223			0.1	221	LAT TGT MECH / TGT ATTACKS	224
LAT	431	1.3	X			180	A	2		243,430	R		0.1	221, 430	SECTION LAT SACT	227
SLAT	432			1.0	X	*	S		NS	431, 255			0.1		BASIC / ADVANCED LAT SIM (NVG)	420
SLAT	433			1.0	X	*	S		NS	432	R		0.1		TGT ATTACKS / TCT SIM (NVG)	421
LAT	434	1.3	X			180	A	2	NS	433			0.1	202, 252	BASIC LAT (NVG)	422
LAT	435	1.3	X			180	A	2	NS	434	R		0.1	202, 252, 431, 434	TCT / ADVANCED LAT (NVG)	423
LAT	436	1.3	X			180	A	2	NS	435			0.1	202, 252	INTRO LAT AS WINGMAN (NVG)	424
LAT	437	1.3	X			180	A	2	NS	436	R		0.1	202, 252, 430, 431, 434, 435, 436	LAT TGT MECH / TGT ATTACKS (NVG)	425
		7.8	**6**	**2.0**	**2**								**0.8**			
ASSAULT SUPPORT ESCORT																
ASE	440	1.3	X			365	A	2+	(NS)	307, 313	R		0.1	202, (252)	ASSAULT SPT ESCORT	260
		1.3	**1**	**0.0**	**0**								**0.1**			
GROUND CONVOY ESCORT																
GCE	441	1.3	X			365	A	2+	(NS)	307, 313	R		0.1	202, (252)	CONVOY ESCORT	
		1.3	**1**	**0.0**	**0**								**0.1**			
LOW ALTITUDE OAS																
OAS	450	1.3	X			365	A	2	(NS)	307, 431, (437)	R		0.1	202, 221, (252)	LOW ALTITUDE CAS	254
OAS	451	1.3	X			365	A	2+	(NS)	353, 431, (437)	R		0.1	202, 221, (252)	LOW ALTITUDE AI	242
		2.6	**2**	**0.0**	**0**								**0.2**			
NTISR																
NTISR	460	1.3	X			365	A	2	(NS)	244, (255)	R		0.1	244, (252)	NON-TRADITIONAL ISR	314
		1.3	**1**	**0.0**	**0**								**0.1**			
LFE																
LFE	470	1.3	X			365	A	4+		353			0.0	202	DAY LFE	480
LFE	471	1.3	X			365	A	4+	NS	353	R		0.0	202, 470	NIGHT LFE	481
		2.6	**2**	**0.0**	**0**								**0.0**			
FAC(A)																
SFAC(A)	480			1.0	X	*	S			307, 321			0.1		TYPE I / II / III SIM	
SFAC(A)	481			1.0	X	*	S			480			0.1		ADVERSE WX HI THRT SIM	
FAC(A)	482	1.3	X			*	A	2		481			0.1	202, 304	FW PGM	
FAC(A)	483	1.3	X			90	A	2		481	R		0.1	202, 303, 482	FW GP	
FAC(A)	484	1.3	X			*	A	2	(NS)	481			0.1	202, 303, 304, (252)	RW TYPE I / II / III	
FAC(A)	485	1.3	X			*	A	2	(NS)	481			0.1	202, 303, 304, 307, (252)	URBAN TYPE I / II / III	
FAC(A)	486	1.3	X			*	A	2	(NS)	481			0.1	202, (252)	AIRSPOT	
FAC(A)	487	1.3	X			180	A	2	NS	482, 483, 484, 485, 486	R		0.1	202, 252, 305, 306	NIGHT FAC(A) BASICS	
FAC(A)	488	1.3	X			365	A	2		487	R		0.1	202, 303, 304	DAY MED THREAT	
FAC(A)	489	1.3	X			365	A	2	NS	488	R		0.1	202, 305, 306	NIGHT MED THREAT	
FAC(A)	490	1.3	X			365	A	2	(NS)	489	R		0.1	202	TARGET AREA INTEGRATION	
FAC(A)	491	1.3	X			*		2	(NS)	490			0.1	202	ADVERSE WX, HIGH THREAT	
FAC(A)	492	1.3	X			*		2	(NS)	490			0.1	202	UAV / UCAV INTEGRATION	
FAC(A)	493	1.3	X			*		2	(NS)	490			0.1	202	NSFS AIRSPOT	
FAC(A)	494	1.3	X			*		2	(NS)	490			0.1	202	AC-130 CFF	
		16.9	**13**	**0.0**	**2**								**1.5**			
ESCORT																
ESC	495	1.3	X			1095		2	(NS)	SECTION LEAD	R		0.1		FAC(A) ESCORT	
		1.3	**1**	**0.0**									**0.1**			
		46.8	**32**	**8.0**	**10**								**5.0**			
INSTRUCTOR TRAINING 500 SERIES																
WTO																
SWTO	500			1.0	X	*	S					E	0.0		MAWTS-1 PROGRAM GUIDE	550
SWTO	501			1.0	X	*	S					E	0.0		MAWTS-1 PROGRAM GUIDE	551
SWTO	502			1.0	X	*	S					E	0.0		MAWTS-1 PROGRAM GUIDE	552
SWTO	503			1.0	X	*	S					E	0.0		MAWTS-1 PROGRAM GUIDE	553
WTO	504	1.3	X			*	A	2	(NS)			E	0.0	202, 236, 238, 241, (252)	MAWTS-1 PROGRAM GUIDE	554

STAGE	TRNG CODE	FLT HOURS	FLIGHTS	SIM HOURS	SIMULATOR	REFLY INTVL	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	SORTIE DESCRIPTION	EVENT CONV
WTO	505	1.3	X			*	A	2	(NS)			E	0.0	202, 236, 238, 241, 242, 243, 244, (252)	MAWTS-1 PROGRAM GUIDE	555
LATI																
SLATI	510			1.0	X	*	S					E	0.0		MAWTS-1 PROGRAM GUIDE	560
SLATI	511			1.0	X	*	S					E	0.0		MAWTS-1 PROGRAM GUIDE	561
LATI	512	1.0	X			*	A	2				E	0.0	202, 222	MAWTS-1 PROGRAM GUIDE	562
LATI	513	1.0	X			*	A	2				E	0.0	202, 222, 223, 431	MAWTS-1 PROGRAM GUIDE	563
LATI	514	1.0	X			*	A	2				E	0.0	202, 222, 223, 430, 431, 451	MAWTS-1 PROGRAM GUIDE	564
NSI																
SNSI	520			1.0	X	*	S		NS			E	0.0		MAWTS-1 PROGRAM GUIDE	583
SNSI	521			1.0	X	*	S		NS			E	0.0		MAWTS-1 PROGRAM GUIDE	583
NSI	522	1.3	X			*	A	2	NS			E	0.0	202, 252	MAWTS-1 PROGRAM GUIDE	585
NSI	523	1.3	X			*	A	2	NS			E	0.0	202, 252	MAWTS-1 PROGRAM GUIDE	585
NSQ LATI																
SNSLATI	524			1.0	X	*	S		NS			E	0.0		MAWTS-1 PROGRAM GUIDE	582
SNSLATI	525			1.0	X	*	S		NS			E	0.0		MAWTS-1 PROGRAM GUIDE	582
NS LATI	526	1.3	X			*	A	2	NS			E	0.0	202, 252, 434, 435, 436, 437	MAWTS-1 PROGRAM GUIDE	584
ACTI																
SACTI	530			1.0	X	*	S					E	0.0		MAWTS-1 PROGRAM GUIDE	570
ACTI	531	1.3	X			*	A	2				E	0.0	202, 261, 262, 263	MAWTS-1 PROGRAM GUIDE	571
ACTI	532	1.3	X			*	A	2				E	0.0	202, 271	MAWTS-1 PROGRAM GUIDE	572
ACTI	533	1.3	X			*	A	2				E	0.0	202, 272, 274, 332	MAWTS-1 PROGRAM GUIDE	573
FAC(A)I																
SFAC(A)I	540			1.0	X	*	S					E	0.0		MAWTS-1 PROGRAM GUIDE	
FAC(A)I	541	1.3	X			*	A	2				E	0.0		MAWTS-1 PROGRAM GUIDE	
FAC(A)I	542	1.3	X			*	A	2				E	0.0		MAWTS-1 PROGRAM GUIDE	
FAC(A)I	543	1.3	X			*	A	2				E	0.0		MAWTS-1 PROGRAM GUIDE	
VMA FRS IUT																
SIUT	550			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	500
SIUT	551			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	501
IUT	552	1.3	X			*	A	1			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	502
IUT	553	1.3	X			*	A	1			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	503
SIUT	554			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	504
IUT	555	1.3	X			*	A	2			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	507
IUT	556	1.3	X			*	A	4			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	508
IUT	557	1.3	X			*	A	4			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	509
IUT	558	1.3	X			*	A	2			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	542
GIUT	559					*					IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	505
SIUT	560			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	540
IUT	561	1.1	X			*	A	2			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	511
SIUT	562			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	510
SIUT	563			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	511
IUT	564	1.1	X			*	A	2			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	512
IUT	565	1.1	X			*	A	2			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	513
IUT	566	1.1	X			*	A	2			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	
SIUT	567			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	515
IUT	568	1.1	X			*	A	1			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	517
IUT	569	1.1	X			*	A	2			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	
GIUT	570					*					IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	
IUT	571	1.3	X			*	A	1			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	522
IUT	572	1.3	X			*	A	1			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	523
SIUT	573			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	524
SIUT	574			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	525
IUT	575	1.3	X			*	A	1			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	526
SIUT	576			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	536
SIUT	577			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	
IUT	580	1.3	X			*	A	1	NS		IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	544
IUT	581	1.3	X			*	A	2	NS		IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	
IUT	582	1.3	X			*	A	2	NS		IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	546
SIUT	583			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	
IUT	584	1.1	X			*	A	2			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	
IUT	585	1.1	X			*	A	1			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	
SIUT	586			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	529
IUT	587	1.1	X			*	A	2			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	533
IUT	588	1.1	X			*	A	2			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	530
IUT	589	1.1	X			*	A	2			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	

STAGE	TRNG CODE	FLT HOURS	FLIGHTS	SIM HOURS	SIMULATOR	REFLY INTVL	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	SORTIE DESCRIPTION	EVENT CONV
SIUT	590			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	
SIUT	591			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	
GIUT	592					*					IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	
IUT	593	1.3	X			*	A	2			IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	
SIUT	595			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	527
SIUT	599			1.5	X	*	S				IP	E	0.0		VMAT-203 IUT FLIGHT SYLLABUS GUIDE	547

REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS 600 SERIES																
REQUIREMENTS																
RQD	600			1.5	X	365	S/A	2	(NS)	PER PHASE DESC	R	E			NATOPS CHECK	600
RQD	601			1.5	X	365	S/A	2	(NS)	PER PHASE DESC	R	E			INSTRUMENT CHECK	601
RQD	602			1.5	X	365	S/A	2	(NS)	PER PHASE DESC	R	E			CREW RESOURCE MANAGEMENT	617
RQD	603	1.3	X			90	A	2+	(NS)	PER PHASE DESC	R			PER SCENARIO	SECTION LEAD PROF. FLIGHT	674
RQD	604	1.3	X			180	A	4+	(NS)	PER PHASE DESC	R			PER SCENARIO	DIVISION LEAD PROF. FLIGHT	675
RQD	605	1.3	X			365	A	4+	(NS)	PER PHASE DESC	R			PER SCENARIO	MISSION COMMANDER PROF. FLIGHT	676
QUALIFICATIONS																
QUAL	610	0.0								PER PHASE DESC		E			AAR QUAL	205
QUAL	611	0.0					A	2		PER PHASE DESC		E			LAT QUAL	610
QUAL	612	0.0					A	2	NS	PER PHASE DESC		E			NS QUAL	614
QUAL	613	0.0					A	2		PER PHASE DESC		E			ACM QUAL	613
QUAL	614	0.0					A	1		PER PHASE DESC		E			CQ (DAY)	611
QUAL	615	0.0					A	1	NS	PER PHASE DESC		E			CQ (NIGHT)	612
QUAL	616	0.0					A	2	NS	PER PHASE DESC		E			LAT QUAL (NS)	615
QUAL	617	0.0					A	2		PER PHASE DESC		E			FAC(A)	
QUAL	618	0.0					A	1		PER PHASE DESC		E			AIRSHOW DEMO PILOT	618
DESIGNATION: SECTION LEAD																
SDESG	620			1.0	X	*	S		(NS)	PER PHASE DESC		E			SACT SIMULATOR	651
SDESG	621			1.0	X	*	S		(NS)	620		E			PGM EMPLOYMENT SIMULATOR	651
DESG	622	1.3	X			*	A	2	(NS)	620		E		202, 236, 237, 241, 242, (252)	PGM EMPLOYMENT	651
DESG	623	1.3	X			*	A	2		621		E		202, 261, 262, 263, 264	1V1 BFM	647
DESG	624	1.3	X			*	A	2	(NS)	621		E		202, (252), 303, (305)	CAS TYPE 1	641
DESG	625	1.3	X			*	A	2	(NS)	621		E		202, (252), 304, (306)	CAS TYPE 2 / 3	642
DESG	626	1.3	X			*	A	2	(NS)	621		E		202, (252), 311, 312, (313), 320, (321)	SCAR	643
DESG	627	1.3	X			*	A	2		621		E		202, (252), 261, 262, 263, 264, 271, 272, 273	DCA	650
		7.8	**6**	**2.0**	**2**											
DESIGNATION: DIVISION LEAD																
DESG	630	1.3	X			*	A	3+	(NS)	PER PHASE DESC		E		202, 244, (252)	TARGET AREA TACTICS	654
DESG	631	1.3	X			*	A	3+	(NS)	PER PHASE DESC		E		202, (252), 311, 312, 313	ARMED RECCE	655
DESG	632	1.3	X			*	A	3+		PER PHASE DESC		E		202, (252), 351, 353	AI (DAY)	653
DESG	633	1.3	X			*	A	3+	NS	PER PHASE DESC		E		202, (252), 352, 353	AI (NIGHT)	656
		5.2	**4**	**0.0**	**0**											
DESIGNATION: MISSION COMMANDER																
DESG	636	2.0	X			*	A	4+	(NS)	PER PHASE DESC		E		PER SCENARIO	MISSION COMMANDER LFE (STRIKE)	659
DESG	637	2.0	X			*	A	4+	(NS)	PER PHASE DESC		E		PER SCENARIO	MISSION COMMANDER LFE (SCAR)	657
DESIGNATION: PMCF																
DESG	640			1.5	X	*	S			PER PHASE DESC	R	E			PMCF SIMULATOR	666
DESG	641	1.5	X			180	A	1		202	R			202	PMCF	667
DESIGNATION: DEMO PILOT																
DESG	642			1.5	X	*	S			PER PHASE DESC	R	E			AIR SHOW DEMO SIMULATOR	618
DESG	643	.8	X			365	A	1		202	R			202	LEVEL III AIR SHOW DEMO	618
TRACKING																
TRK	650					365	A	1+	(NS)	210,(211)					STRATEGIC AAR	673
TRK	651					90	A	1+	(NS)						TPOD EMPLOYMENT	
TRK	652					180	A	1+	(NS)						ALQ-164 EMPLOYMENT	689
TRK	653					90	A	1+	(NS)						ALE-39 EMPLOYMENT	
TRK	654					180	A	1+	(NS)						GAU-12 (AS)	678
TRK	655					90	A	1+	(NS)						EMPLOY MK-76/BDU-48/BDU-45/MK-83I	

TRK	656					180	A	1+	(NS)						EMPLOY MK-82/83 HE	677
TRK	657					365	A	1+	(NS)						EMPLOY CLUSTER MUNITION	679
TRK	658					1095	A	1+	(NS)						EMPLOY MK-77	680
TRK	659					365	A	1+	(NS)						EMPLOY ROCKETS	681
TRK	660					365	A	1+	(NS)						EMPLOY LUU-2/19	682
TRK	661					180	A	1+	(NS)						CAPTIVE AGM-65E	
TRK	662					1095	A	1+	(NS)						EMPLOY AGM-65E	683
TRK	663					90	A	1+	(NS)						EMPLOY LGTR	
TRK	664					180	A	1+	(NS)						EMPLOY GBU-12/16	685
TRK	665					365	A	1+	(NS)						EMPLOY GBU-32/38	686
TRK	666					1095	A	1+							EMPLOY GAU-12 (AA)	688
TRK	667					1095	A	1+							EMPLOY AIM-9	687
TRK	668														RANGE REQUIREMENT UNAVAILABLE	
TRK	669														ORDNANCE REQUIREMENT UNAVAILABLE	
TRK	670														SYLLABUS SUPPORT UNAVAILABLE	
TRK	671														INCOMPLETE FAM EVENT	
TRK	672														INCOMPLETE AAR EVENT	
TRK	673														INCOMPLETE LAT EVENT	
TRK	674														INCOMPLETE AS EVENT	
TRK	675														INCOMPLETE NS EVENT	
TRK	676														INCOMPLETE AA EVENT	
TRK	677														INCOMPLETE CAS EVENT	
TRK	678														INCOMPLETE AR EVENT	
TRK	679														INCOMPLETE SCAR EVENT	
TRK	680														INCOMPLETE AAW EVENT	
TRK	681														INCOMPLETE AI EVENT	
TRK	682														INCOMPLETE FCLP	
TRK	683														INCOMPLETE CQ	
TRK	684														INCOMPLETE FBO	
TRK	685														INCOMPLETE LAT (NS) EVENT	
TRK	686														INCOMPLETE ASE EVENT	
TRK	687														INCOMPLETE GCE EVENT	
TRK	688														INCOMPLETE OAS EVENT	
TRK	689														INCOMPLETE NTISR EVENT	
TRK	690														INCOMPLETE LFE EVENT	
TRK	691														INCOMPLETE FAC(A) EVENT	
TRK	692														INCOMPLETE ESC EVENT	
TRK	693	1.0	X			*	A	1		202					DAY CAL SITE OPERATIONS	690
TRK	694	1.0	X			*	A	1	NS	693					NIGHT CAL SITE OPERATIONS	691
TRK	695	1.0	X			*	A	1		412					DAY ROAD OPERATIONS	692
TRK	696	1.0	X			*	A	1	NS	413, 695					NIGHT ROAD OPERATIONS	693
TRK	697	1.0	X			*	A	1		412					GRASS OPERATIONS	694
LSO, LSI, LSS DESIGNATION AND TRACKING 700 SERIES																
DESIG	700						F								LSO: DAY BASIC FIELD	700
DESIG	701						F								LSO: NIGHT BASIC FIELD	701
DESIG	702						L								LSO: DAY BASIC SHIP	702
DESIG	703						L								LSO: NIGHT BASIC SHIP	703
DESIG	704						L								LSO: DAY ADVANCED	704
DESIG	705						L								LSO: NIGHT ADVANCED	705
DESIG	706						L								LSO: DAY TRAINING	706
DESIG	707						L								LSO: NIGHT TRAINING	707
DESIG	710						F								LSI: DAY FACILITY	710
DESIG	711						F								LSI: NIGHT FACILITY	711
DESIG	712						R								LSS: DAY ROAD	712
DESIG	713						R								LSS: NIGHT ROAD	713
DESIG	714						C								LSS: DAY CAL SITE	714
DESIG	715						C								LSS: NIGHT CAL SITE	715
TRK	720						P								LSO: CONTROL DAY FCLP	720
TRK	721						P								LSO: CONTROL NIGHT FCLP (UNAIDED)	721
TRK	722						P								LSO: CONTROL NIGHT FCLP (AIDED)	722
TRK	723						L								LSO: CONTROL DAY SHIP	723
TRK	724						L								LSO: CONTROL NIGHT SHIP (UNAIDED)	724
TRK	725						L								LSO: CONTROL NIGHT SHIP (AIDED)	725
TRK	726						L								TRAINING LSO: CONTROL DAY	726
TRK	727						L								TRAINING LSO: CONTROL NIGHT	727
TRK	730						F								LSI: CONTROL DAY FACILITY	730
TRK	731						F								LSI: CONTROL NIGHT FACILITY	731
TRK	732						R								LSS: CONTROL DAY ROAD	732
TRK	733						R								LSS: CONTROL NIGHT ROAD	733
TRK	734						C								LSS: CONTROL DAY CAL SITE	734
TRK	735						C								LSS: CONTROL NIGHT CAL SITE	735